



SEQUENCE LISTING

<110> MCCARTHY, Sean A
FRASER, Christopher C
SHARP, John D
BARNES, Thomas S
KIRST, Susan J
MYERS, Paul S
WRIGHTON, Nicholas
GOODEARL, Andrew
HOLTZMAN, Douglas A
KHODADOUST, Mehran M

<120> NOVEL GENES ENCODING PROTEINS HAVING PROGNOSTIC,
DIAGNOSTIC, PREVENTIVE, THERAPEUTIC, AND OTHER USES

<130> 210147.0065/65US

<140> 09/766,511
<141> 2001-01-19

<150> US 09/578,063
<151> 2000-05-24

<150> US 09/333,159
<151> 1999-06-14

<150> US 09/596,194
<151> 2000-06-16

<150> US 09/342,364
<151> 1999-06-29

<150> US 09/608,452
<151> 2000-06-30

<150> US 09/393,996
<151> 1999-09-10

<150> US 09/345,680
<151> 1999-06-30

<160> 85

<170> PatentIn Ver. 2.1

<210> 1
<211> 2964

<212> DNA

<213> Homo sapiens

<400> 1

```
gtcgacccac gcgctccgcgg acgcgtgggg acggctcccc gctgcagtct gcccgcccgc 60
cccgcgcggg ggccgagtcg cgaagcgcg ctcgaccccg gcgtccgggc gcgctggaga 120
ggacgcgagg agccatgagg cgccagcctg cgaagggtggc ggcgctgctg ctcgggctgc 180
tcttggaagt cacagaagcc aaaaagcatt gctggatatt cgaaggactc tatccaacct 240
attatatatg ccgctcctac gaggactgct gtggctccag gtgctgtgtg cgggcccctc 300
ccatacacag gctgtggtac ttctggttcc ttctgatgat gggcgctgctt ttctgctgcg 360
gagccggcctt cttcatccgg aggcgcattg acccccgcgc gctgatcgag gagccagcct 420
tcaatgtgtc ctacaccagg cagcccccaa atccccggcc aggagcccag cagccggggc 480
cgccctatta cactgaccca ggaggaccgg gtaggaaccc tgtcggaat tccatggcaa 540
tggttttcca ggtcccaccc aactcacccc aggggagtggt ggccctgccg ccccctccag 600
cctactgcaa cacgcctccg cccccgtacg aacaggtagt gaaggccaag tagtggggtg 660
cccacgtgca agaggagaga caggagaggg cctttccctg gcctttctgt cttcgttgat 720
gttcacttcc aggaacggtc tcgtgggctg ctaagggcag ttctctgat atcctcacag 780
caagcacagc tctctttcag gctttccatg gagtacaata tatgaactca cactttgtct 840
cctctgttgc ttctgtttct gacgcagtct gtgctctcac atggtagtgt ggtgacagtc 900
cccgagggct gacgtcctta cgggtggcgtg accagatcta caggagagag actgagagga 960
agaaggcagt gctggaggtg cagggtggcat gtagaggggc caggccgagc atcccaggca 1020
agcatccttc tgcccgggta ttaataggaa gccccatgcc gggcggtca gccgatgaag 1080
cagcagccga ctgagctgag cccagcaggt catctgctcc agcctgtcct ctcgctcagcc 1140
ttcctcttcc agaagctgtt ggagagacat tcaggagaga gcaagcccct tgtcatgttt 1200
ctgtctctgt tcatatccta aagatagact tctcctgcac cgccaggga gggtagcacg 1260
tgcagctctc accgcaggat ggggcctaga atcaggcttg ccttgagggc ctgacagtga 1320
tctgacatcc actaagcaaa tttatttaaa ttcattggga atcacttcct gccccaaact 1380
gagacattgc attttgtgag ctcttggctc gatttggaga aaggactgtt acccattttt 1440
ttggtgtgtt tatggaagt catgtagagc gtccctgcct ttgaaatcag actgggtgtg 1500
tgtcttccct ggacatcact gcctctccag ggcattctca ggcccggggg tctccttccc 1560
tcaggcagct ccagtgggtg gttctgaagg gtgctttcaa aacggggcac atctggctgg 1620
gaagtcacat ggactcttcc agggagagag accagctgag gcgtctctct ctgaggttgt 1680
gttgggtcta agcgggtgtg tgcgtgggct caaggaggag gagcttgctg ggaaaagaca 1740
ggagaagtac tgactcaact gcactgacca tgttgtcata attagaataa agaagaagtg 1800
gtcggaatg cacattcctg gataggaatc acagctcacc ccaggatctc acaggtagtc 1860
tctgagtag ttgacggcta gcggggagct agttccgcgc catagttata gtgttgatgt 1920
gtgaacgctg acctgtcctg tgtgctaaga gctatgcagc ttagctgagg cgcctagatt 1980
actagatgtg ctgtatcacg gggaatgagg tgggggtgct tattttttaa tgaactaatc 2040
agagcctctt gagaaattgt tactcattga actggagcat caagacatct catggaagtg 2100
gatacggagt gatttgggtg ccatgctttt cactctgagg acatttaatc ggagaacctc 2160
ctggggaatt ttgtgggaga cacttgggaa caaacagac accctgggaa tgcagttgca 2220
agcacagatg ctgccaccag tgtctctgac caccctggtg tgactgctga ctgccagcgt 2280
ggtacctccc atgtgcagg cctccatcta aatgagacaa caaagcacia tgttactgt 2340
ttacaaccaa gacaactgcg tgggtccaaa cactcctctt cctccaggtc atttgtttt 2400
catttttaat gtctttatct tttgtaatga aaaagcacac taagctgcc ctggaatcgg 2460
gtgcagctga ataggcacc aaaagtccgt gactaaattt cgtttgcctt tttgatagca 2520
aattatgtta agagacagt atggctagg ctcaacaatt ttgtattccc atgtttgtgt 2580
gagacagagt ttgttttccc ttgaacttgg ttagaattgt gctactgtga acgctgatcc 2640
```

```

tgcatatgga agtcccactt tggtagacatt tcttgcccat tcttggttcc atttgttgga 2700
tggtaggttg tgcccacttc ctggagttag acagctcctg gtgtgtagaa ttcccggagc 2760
gtccgtgggt cagagtaaac ttgaagcaga tctgtgcatg cttttcctct gcaacaattg 2820
gctcgtttct cttttttgtt ctcttttgat aggatcctgt ttcctatgtg tgcaaaataa 2880
aaataaattt gggcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2940
aaaaaaaaa aaaagggcgg ccgc 2964

```

<210> 2
 <211> 516
 <212> DNA
 <213> Homo sapiens

```

<400> 2
atgaggcgcc agcctgcgaa ggtggcggcg ctgctgctcg ggctgctctt ggagtgcaca 60
gaagccaaaa agcattgctg gtatttcgaa ggactctatc caacctatta tatatgccgc 120
tctacgagg actgctgttg ctccaggtag tgtgtgcggg ccctctccat acagaggctg 180
tggtagttct ggttccttct gatgatgggc gtgcttttct gctgcggagc cggcttcttc 240
atccggaggc gcatgtaccc cccgccgctg atcgaggagc cagccttcaa tgtgtcctac 300
accaggcagc ccccaaattc cggcccagga gccagcagc cggggccgcc ctattacact 360
gaccaggag gaccgggat gaacctgtc gggaattcca tggcaatggc tttccaggctc 420
ccaccaact caccaggag gagggtggc tgccgcgcc ctccagccta ctgcaacacg 480
cctccgcccc cgtacgaaca gtagtgaag gccaag 516

```

<210> 3
 <211> 172
 <212> PRT
 <213> Homo sapiens

```

<400> 3
Met Arg Arg Gln Pro Ala Lys Val Ala Ala Leu Leu Leu Gly Leu Leu
  1             5             10             15

Leu Glu Cys Thr Glu Ala Lys Lys His Cys Trp Tyr Phe Glu Gly Leu
      20             25             30

Tyr Pro Thr Tyr Tyr Ile Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser
      35             40             45

Arg Cys Cys Val Arg Ala Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp
      50             55             60

Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly Ala Gly Phe Phe
      65             70             75             80

Ile Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe
      85             90             95

```

Asn Val Ser Tyr Thr Arg Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln
 100 105 110

Gln Pro Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn
 115 120 125

Pro Val Gly Asn Ser Met Ala Met Ala Phe Gln Val Pro Pro Asn Ser
 130 135 140

Pro Gln Gly Ser Val Ala Cys Pro Pro Pro Pro Ala Tyr Cys Asn Thr
 145 150 155 160

Pro Pro Pro Pro Tyr Glu Gln Val Val Lys Ala Lys
 165 170

<210> 4
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Arg Arg Gln Pro Ala Lys Val Ala Ala Leu Leu Leu Gly Leu Leu
 1 5 10 15

Leu Glu Cys Thr Glu Ala
 20

<210> 5
 <211> 150
 <212> PRT
 <213> Homo sapiens

<400> 5
 Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile
 1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala
 20 25 30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly
 35 40 45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
 50 55 60

Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe Asn Val Ser Tyr Thr Arg
65 70 75 80

Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln Gln Pro Gly Pro Pro Tyr
85 90 95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Ser Met
100 105 110

Ala Met Ala Phe Gln Val Pro Pro Asn Ser Pro Gln Gly Ser Val Ala
115 120 125

Cys Pro Pro Pro Pro Ala Tyr Cys Asn Thr Pro Pro Pro Pro Tyr Glu
130 135 140

Gln Val Val Lys Ala Lys
145 150

<210> 6
<211> 38
<212> PRT
<213> Homo sapiens

<400> 6
Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile
1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala
20 25 30

Leu Ser Ile Gln Arg Leu
35

<210> 7
<211> 21
<212> PRT
<213> Homo sapiens

<400> 7
Trp Tyr Phe Trp Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly
1 5 10 15

Ala Gly Phe Phe Ile
20

<210> 8
 <211> 91
 <212> PRT
 <213> Homo sapiens

<400> 8
 Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Ala Phe Asn
 1 5 10 15
 Val Ser Tyr Thr Arg Gln Pro Pro Asn Pro Gly Pro Gly Ala Gln Gln
 20 25 30
 Pro Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro
 35 40 45
 Val Gly Asn Ser Met Ala Met Ala Phe Gln Val Pro Pro Asn Ser Pro
 50 55 60
 Gln Gly Ser Val Ala Cys Pro Pro Pro Pro Ala Tyr Cys Asn Thr Pro
 65 70 75 80
 Pro Pro Pro Tyr Glu Gln Val Val Lys Ala Lys
 85 90

<210> 9
 <400> 9
 000

<210> 10
 <400> 10
 000

<210> 11
 <211> 2915
 <212> DNA
 <213> Mus sp.

<400> 11
 gtcgacccac ggcgtccggcc ggcgcgtcctt ctgccggctt cagctcgtat ccccgaggatc 60
 caccgcgccg tcccgggggtg cggactggcc ctgagctggc cgtacagccc ggcttcggac 120
 ggctcctcgtt ggagccatgg gccgcgggct cggcaggggtg gcggcgctgc tgctcgggct 180
 gctagtggag tgcactgagg ccaaaaaaca ttgctggtat tttgaaggac tctatccac 240
 atactatata tgccgttcct atgaagactg ctgtggctcc aggtgctgtg tgagggccct 300
 ttccatacag aggctgtggt atttttggtt cctgctgatg atgggtgtgc tgttctgctg 360
 tggtgcccgtt ttcttcattc gccggcgcat gtatccgcca ccactcattg aggagcccac 420

```

attcaatgtg tcctatacca ggcagccacc aaatcctgct ccaggagcac agcaaattggg 480
accgccatat tacaccgacc ctggaggacc cgggatgaat cctggtggca ataccatggc 540
tatggctttc caggtccagc ccaattcacc tcacggaggc acaacttacc caccctctcc 600
ttcctactgc aacacgcctc cccccctta tgaacaggtg gtgaaggaca agtagcaaga 660
tgctacatca aaggcaaaga ggatggacag gcccttttgt ttaccttccc atcctcaccg 720
atacttgctg ataggggtgt ccaagggaaa acttgatat tctcaaagca agcccagctc 780
tctttcaagt cttttgtgga ggacatttga atccacactg tctcctctgt tgcttctgtt 840
tctgatgtag tctgtgctct ctgagagagt gtggcaacag tccctgaggg ttgatattcc 900
taggggtgtc agggtagatc ctggggagag aggctaaggg gaaaggaagg catagcctgt 960
gtgttagggg gcagataaag tggtcaggct gagataagac tcacatgatg cagtagttgg 1020
cagtgaactt cgaagagaca ctatccacca tcccagccca ttctcctaag agaagctgtg 1080
gggctgtgtt gttgatgctc tttgggtctc actcacattt tgaaaatagg ctttcctctg 1140
caggaatagg aaagacccaa gtacatatatt gcttccactt aaaaatgagg gtcagaacca 1200
ggcctcagtt ggacatctat agttaaataa aggccattag agaggggaaa tctttaagtt 1260
aggggaaatt ctctaaatgg agacattgct ttttatgaat catcgtctgg cttttctttt 1320
agtgcattga ttgaagtga ggtgtccttt gagatcagat ggggagagtg aactctgcgg 1380
ggggtggggg gtctctactc agagggctcc aacaccttt tcttaggtag ttctgggtgat 1440
gggttttatg ggcactatag agctgagggg cacattaggc cgggtagtta cattgacct 1500
tgagagaggaa gaggacagcc aaagaaactc agcaaagcaa gaccagcatt gctgagttag 1560
agctaggggt gtatgtgatc ccaacagaga tgtgtctggc tcagaagagg ggacgtttgt 1620
ggatagagcc gtgaaaacct acttagttgc acagatgaca taatcaaaag tagagaaaga 1680
agtgtagtta gagatgccat tcccagggtg agaatcagag ctcatccata gatttacaag 1740
tagtggctgg agttaacagt atggagttct tttcccttgc gtagttagtc acgttgatgt 1800
gtatttaaac ccaggttgag accttgtgta ctaagagcaa ggaagtatag ctaagatgtc 1860
tagattattt atatgtagta tgggtggggg tggggctgca aggaaggggg ctgacattgt 1920
aaatgagaaa atcagagcca tttgataaac tgttacttgt tggatcaggc atccaaaagt 1980
gtctcttgag tggacattga gtattcttta ccacctacaa gaccaggagg catggtgtca 2040
ttctccattg gggatattat atgaggtaga ggttcaggaa tcgacagtag ctgtgtgggc 2100
ttagtttaag gactgaaagc atagggactg gtagacagtt tcataggaaa ctgcggggaa 2160
ggaatggata cttttaaaga cagtttgtgg atgcagatgc tgccacccat cattgagcac 2220
ccttgtgtct ctggcttctc gtcactggat ccagtacccc tccatgcttg ggtccttgtt 2280
ttacataaga caacaaagca caatgtctgc tgtttacaat caagacgact acatgggtcca 2340
aacatttctt ctctcttcta tcaattgtgg ctttaacttc catttcctcc gttccttttt 2400
aaaatcaaga agcacagtca gagctgcccc tgggattgca tcagggaaag gctgatcaag 2460
gcattcagtg tccatgacta aatcttatct ttttgatagc aaatcctttt aagaaactga 2520
acaattgcta aggtctagca attttatact ccaatgtctg tgtaaggtaa attttgtttg 2580
ccattgagcc cacattggaa ttccttctga cgtcaacact gacaatgcct atggaaaattg 2640
cacttctggg tatatgtccc agcatccttg ttttcttatg tttgggtgagt aaggctcacc 2700
ccttcagca gctctacttc tgtgtgctga ggtcctgtag agccggggct tgggcacaga 2760
catgaggcag acttgtgcat gctctttctt ggcaacactt ggctcatatt tcttgttctc 2820
ttttgataga gtctgtttt ctatgtattt aaaaaataat aaaagtgaat ttagtcaaaa 2880
aaaaaaaaa aaaaaaaaaa aaaaagggcg gccgc 2915

```

<210> 12

<211> 516

<212> DNA

<213> Mus sp.

<400> 12

```
atgggcccgc ggctcggcag ggtggcggcg ctgctgctcg ggctgctagt ggagtgcact 60
gaggccaaaa aacattgctg gtattttgaa ggactctatc ccacatacta tatatgccgt 120
tcctatgaag actgctgtgg ctccagggtc tgtgtgaggg ccctttccat acagaggctg 180
tggtattttt gggtcctgct gatgatgggt gtgctgttct gctgtggtgc cggtttcttc 240
attcgccggc gcatgtatcc gccaccactc attgaggagc ccacattcaa tgtgtcctat 300
accaggcagc caccaaatcc tgctccagga gcacagcaaa tgggaccgcc atattacacc 360
gaccctggag gaccgggat gaatcctggt ggcaatacca tggctatggc tttccaggctc 420
cagcccaatt cacctcacgg aggcacaact taccaccccc ctccttccta ctgcaacacg 480
cctccacccc cctatgaaca ggtggtgaag gacaag 516
```

<210> 13

<211> 172

<212> PRT

<213> Mus sp.

<400> 13

```
Met Gly Arg Arg Leu Gly Arg Val Ala Ala Leu Leu Leu Gly Leu Leu
  1             5             10             15
```

```
Val Glu Cys Thr Glu Ala Lys Lys His Cys Trp Tyr Phe Glu Gly Leu
          20             25             30
```

```
Tyr Pro Thr Tyr Tyr Ile Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser
          35             40             45
```

```
Arg Cys Cys Val Arg Ala Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp
          50             55             60
```

```
Phe Leu Leu Met Met Gly Val Leu Phe Cys Cys Gly Ala Gly Phe Phe
          65             70             75             80
```

```
Ile Arg Arg Arg Met Tyr Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe
          85             90             95
```

```
Asn Val Ser Tyr Thr Arg Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln
          100            105            110
```

```
Gln Met Gly Pro Pro Tyr Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn
          115            120            125
```

```
Pro Val Gly Asn Thr Met Ala Met Ala Phe Gln Val Gln Pro Asn Ser
          130            135            140
```

```
Pro His Gly Gly Thr Thr Tyr Pro Pro Pro Pro Ser Tyr Cys Asn Thr
          145            150            155            160
```


Pro Pro Pro Pro Tyr Glu Gln Val Val Lys Asp Lys
 165 170

<210> 14
 <400> 14
 000

<210> 15
 <211> 150
 <212> PRT
 <213> Mus sp.

<400> 15
 Lys Lys His Cys Trp Tyr Phe Glu Gly Leu Tyr Pro Thr Tyr Tyr Ile
 1 5 10 15

Cys Arg Ser Tyr Glu Asp Cys Cys Gly Ser Arg Cys Cys Val Arg Ala
 20 25 30

Leu Ser Ile Gln Arg Leu Trp Tyr Phe Trp Phe Leu Leu Met Met Gly
 35 40 45

Val Leu Phe Cys Cys Gly Ala Gly Phe Phe Ile Arg Arg Arg Met Tyr
 50 55 60

Pro Pro Pro Leu Ile Glu Glu Pro Thr Phe Asn Val Ser Tyr Thr Arg
 65 70 75 80

Gln Pro Pro Asn Pro Ala Pro Gly Ala Gln Gln Met Gly Pro Pro Tyr
 85 90 95

Tyr Thr Asp Pro Gly Gly Pro Gly Met Asn Pro Val Gly Asn Thr Met
 100 105 110

Ala Met Ala Phe Gln Val Gln Pro Asn Ser Pro His Gly Gly Thr Thr
 115 120 125

Tyr Pro Pro Pro Pro Ser Tyr Cys Asn Thr Pro Pro Pro Pro Tyr Glu
 130 135 140

Gln Val Val Lys Asp Lys
 145 150

<210> 16

<400> 16
000

<210> 17
<400> 17
000

<210> 18
<400> 18
000

<210> 19
<400> 19
000

<210> 20
<400> 20
000

<210> 21
<211> 2169
<212> DNA
<213> Homo sapiens

<400> 21
gtcgaaccac gcgtccggaa atgtcgttct tcagatttaa aaagaaaacc tttactgaat 60
cagctgagtg ttaataatac gaatttcctt ttcttgccaa ttctgatctg aacagaaaat 120
ccaagaacag ggatatgtgt ggattacagt tttctctgcc ttgcctacga ctgtttctgg 180
ttgttacctg ttatctttta ttattactcc acaaagaaat acttggatgt tcgtctgttt 240
gtcagctctg cactgggaga caaattaact gccgtaactt aggcctttcg agtattccta 300
agaattttcc tgaaagtaca gtttttctgt atctgactgg gaataatata tcttatataa 360
atgaaagtga attaacagga cttcattctc ttgtagcatt gtatttggat aattctaaca 420
ttctgtatgt atatccaaaa gcctttgttc aattgaggca tctatatattt ctattttctaa 480
ataataattt catcaaacgc ttagatcctg gaatatttaa gggactttta aatcttcgta 540
atttatatatt acagtataat caggatatctt ttgttccgag aggagtattt aatgatctag 600
tttcagttca gtacttaaat ctacaaagga atcgctcac tgccttggg agtggtacct 660
ttgttggtat ggttgctctt cggatacttg atttatcaaa caataacatt ttgaggatat 720
cagaatcagg ctttcaacat cttgaaaacc ttgcttggtt gtatttagga agtaataatt 780
taacaaaagt accatcaaat gcctttgaag tacttaaaag tcttagaaga ctttctttgt 840
ctcataatcc tattgaagca atacagccct ttgcatttaa aggacttgcc aatctggaat 900
acctcctcct gaaaaattca agaattagga atgttactag ggatgggttt agtggaatta 960
ataatcttaa acatttgatc ttaagtcata atgatttaga gaatttaaat tctgacacat 1020
tcagtttggt aaagaattta atttacctta agttagatag aaacagaata attagcattg 1080

ataatgatac	atttgaaaat	atgggagcat	ctttgaagat	ccttaatctg	tcatttaata	1140
atcttacagc	cttgcaccca	agggctccta	agccgttgtc	ttcattgatt	catcttcagg	1200
caaattctaa	tccttgggaa	tgtaactgca	aacttttggg	ccttcgagac	tggttagcat	1260
cttcagccat	tactctaaac	atctattgtc	agaatcccc	atccatgcgt	ggcagagcat	1320
tacgttatat	taacattaca	aattgtgtta	catcttcaat	aaatgtatcc	agagcttggg	1380
ctgttgtaaa	atctcctcat	attcatcaca	agactactgc	gctaattgatg	gcctggcata	1440
aagtaaccac	aatgggcagt	cctctggaaa	atactgagac	tgagaacatt	actttctggg	1500
aacgaattcc	tacttcacct	gctggtagat	tttttcaaga	gaatgccttt	ggtaatccat	1560
tagagactac	agcagtgtta	cctgtgcaaa	tacaacttac	tacttctgtt	accttgaact	1620
tggaaaaaaa	cagtgcctca	ccgaatgatg	ctgcttcaat	gtcagggaaa	acatctctaa	1680
tttgtagaca	agaagttgag	aagttgaatg	aggcttttga	catttttgcta	gcttttttca	1740
tcttagcttg	tgttttaatc	atttttttga	tctacaaagt	tgttcagttt	aaacaaaaac	1800
taaaggcatc	agaaaactca	agggaaaata	gacttgaata	ctacagcttt	tatcagtcag	1860
caaggtataa	tgtaactgcc	tcaatttcta	acacttcccc	aaattctcta	gaaagtccctg	1920
gcttgaggca	gattcgactt	cataaacaaa	ttgttcctga	aaatgaggca	caggtcattc	1980
tttttgaaca	ttctgcttta	taactcaact	aaatattgtc	tataagaaac	ttcagtgcca	2040
tgacatgat	ttaaactgaa	acctccttat	ataattatat	acttttagttg	gaaatataat	2100
gaattatatg	aggttagcat	tattaaaata	tgtttttaat	aaaaaaaaaa	aaaaaaaaag	2160
ggcgccgc						2169

<210> 22

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 22

atgtgtggat	tacagttttc	tctgccttgc	ctacgactgt	ttctggttgt	tacctgttat	60
cttttattat	tactccacaa	agaaataactt	ggatgttcgt	ctgtttgtca	gctctgcaact	120
gggagacaaa	ttaactgccg	taacttaggc	ctttcgagta	ttcctaagaa	ttttcctgaa	180
agtacagttt	ttctgtatct	gactgggaat	aatatatctt	atataaatga	aagtgaatta	240
acaggacttc	attctcttgt	agcattgtat	ttggataatt	ctaacattct	gtatgtatat	300
ccaaaagcct	ttgttcaatt	gaggcatcta	tattttctat	ttctaaataa	taatttcac	360
aaacgcttag	atcctggaat	atttaaggga	cttttaaatac	ttcgtaattt	atatttacag	420
tataatcagg	tatcttttgt	tccgagagga	gtatttaatg	atctagtctc	agttcagtac	480
ttaaactctac	aaaggaatcg	cctcactgtc	cttgggagtg	gtacctttgt	tggtatgggt	540
gctcttcgga	tacttgattt	atcaaacaat	aacattttga	ggatatcaga	atcaggcttt	600
caacatcttg	aaaaccttgc	ttgtttgtat	ttaggaagta	ataatttaac	aaaagtacca	660
tcaaatgcct	ttgaagtact	taaaagtctt	agaagacttt	ctttgtctca	taatcctatt	720
gaagcaatac	agccctttgc	atttaaaggga	cttgccaatc	tggaatacct	cctcctgaaa	780
aattcaagaa	ttaggaatgt	tactagggat	gggttttagtg	gaattaataa	tcttaaacat	840
ttgatcttaa	gtcataatga	tttagagaat	ttaaattctg	acacattcag	tttgtaaag	900
aatttaattt	accttaagtt	agatagaaac	agaataatta	gcattgataa	tgatacattt	960
gaaaatatgg	gagcatcttt	gaagatcctt	aatctgtcat	ttaataatct	tacagccttg	1020
catccaaggg	tccttaagcc	gttgtcttca	ttgattcatc	ttcaggcaaa	ttctaatacct	1080
tgggaatgta	actgcaaact	tttgggcctt	cgagactggc	tagcatcttc	agccattact	1140
ctaaacatct	attgtcagaa	tcccccatcc	atgcgtggca	gagcattacg	ttatattaac	1200
attacaaatt	gtgttacatc	ttcaataaat	gtatccagag	cttgggctgt	tgtaaaatct	1260

```

cctcatattc atcacaagac tactgcgcta atgatggcct ggcataaagt aaccacaaat 1320
ggcagtcctc tggaaaatac tgagactgag aacattactt tctgggaacg aattcctact 1380
tcacctgctg gtagattttt tcaagagaat gcctttggta atccattaga gactacagca 1440
gtgttacctg tgcaaataca acttactact tctgttacct tgaacttgga aaaaaacagt 1500
gctctaccga atgatgctgc ttcaatgtca gggaaaacat ctctaatttg tacacaagaa 1560
gttgagaagt tgaatgaggc ttttgacatt ttgctagctt ttttcatctt agcttgtgtt 1620
ttaatcattt ttttgatcta caaagtgtgt cagttaaact aaaaactaaa ggcatacagaa 1680
aactcaaggg aaaatagact tgaatactac agcttttatc agtcagcaag gtataatgta 1740
actgcctcaa tttgtaacac ttcccaaact tctctagaaa gtcctggctt ggagcagatt 1800
cgacttcata aacaaattgt tcctgaaaat gaggcacagg tcattctttt tgaacattct 1860
gcttta

```

<210> 23

<211> 622

<212> PRT

<213> Homo sapiens

<400> 23

```

Met Cys Gly Leu Gln Phe Ser Leu Pro Cys Leu Arg Leu Phe Leu Val
  1              5              10              15

```

```

Val Thr Cys Tyr Leu Leu Leu Leu Leu His Lys Glu Ile Leu Gly Cys
      20              25              30

```

```

Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg Asn
      35              40              45

```

```

Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val Phe
      50              55              60

```

```

Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu Leu
      65              70              75              80

```

```

Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn Ile
      85              90              95

```

```

Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr Phe
      100             105             110

```

```

Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile Phe
      115             120             125

```

```

Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln Val
      130             135             140

```

```

Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln Tyr
      145             150             155             160

```

Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr Phe
 165 170 175

Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn Ile
 180 185 190

Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala Cys
 195 200 205

Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala Phe
 210 215 220

Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro Ile
 225 230 235 240

Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu Tyr
 245 250 255

Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly Phe
 260 265 270

Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp Leu
 275 280 285

Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile Tyr
 290 295 300

Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr Phe
 305 310 315 320

Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn Asn
 325 330 335

Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu Ile
 340 345 350

His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu Leu
 355 360 365

Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile Tyr
 370 375 380

Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile Asn
 385 390 395 400

Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp Ala
 405 410 415

Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met Met
420 425 430

Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr Glu
435 440 445

Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala Gly
450 455 460

Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr Ala
465 470 475 480

Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn Leu
485 490 495

Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly Lys
500 505 510

Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala Phe
515 520 525

Asp Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile Phe
530 535 540

Leu Ile Tyr Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser Glu
545 550 555 560

Asn Ser Arg Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser Ala
565 570 575

Arg Tyr Asn Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser Leu
580 585 590

Glu Ser Pro Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val Pro
595 600 605

Glu Asn Glu Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
610 615 620

<210> 24

<211> 31

<212> PRT

<213> Homo sapiens

<400> 24

Met Cys Gly Leu Gln Phe Ser Leu Pro Cys Leu Arg Leu Phe Leu Val

1	5	10	15
---	---	----	----

Val Thr Cys Tyr Leu Leu Leu Leu Leu His Lys Glu Ile Leu Gly
20 25 30

<210> 25
<211> 591
<212> PRT
<213> Homo sapiens

<400> 25
Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg
1 5 10 15

Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val
20 25 30

Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu
35 40 45

Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn
50 55 60

Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr
65 70 75 80

Phe Leu Phe Leu Asn Asn Asn Phe Ile Lys Arg Leu Asp Pro Gly Ile
85 90 95

Phe Lys Gly Leu Leu Asn Leu Arg Asn Leu Tyr Leu Gln Tyr Asn Gln
100 105 110

Val Ser Phe Val Pro Arg Gly Val Phe Asn Asp Leu Val Ser Val Gln
115 120 125

Tyr Leu Asn Leu Gln Arg Asn Arg Leu Thr Val Leu Gly Ser Gly Thr
130 135 140

Phe Val Gly Met Val Ala Leu Arg Ile Leu Asp Leu Ser Asn Asn Asn
145 150 155 160

Ile Leu Arg Ile Ser Glu Ser Gly Phe Gln His Leu Glu Asn Leu Ala
165 170 175

Cys Leu Tyr Leu Gly Ser Asn Asn Leu Thr Lys Val Pro Ser Asn Ala
180 185 190

Phe Glu Val Leu Lys Ser Leu Arg Arg Leu Ser Leu Ser His Asn Pro
195 200 205
Ile Glu Ala Ile Gln Pro Phe Ala Phe Lys Gly Leu Ala Asn Leu Glu
210 215 220
Tyr Leu Leu Leu Lys Asn Ser Arg Ile Arg Asn Val Thr Arg Asp Gly
225 230 235 240
Phe Ser Gly Ile Asn Asn Leu Lys His Leu Ile Leu Ser His Asn Asp
245 250 255
Leu Glu Asn Leu Asn Ser Asp Thr Phe Ser Leu Leu Lys Asn Leu Ile
260 265 270
Tyr Leu Lys Leu Asp Arg Asn Arg Ile Ile Ser Ile Asp Asn Asp Thr
275 280 285
Phe Glu Asn Met Gly Ala Ser Leu Lys Ile Leu Asn Leu Ser Phe Asn
290 295 300
Asn Leu Thr Ala Leu His Pro Arg Val Leu Lys Pro Leu Ser Ser Leu
305 310 315 320
Ile His Leu Gln Ala Asn Ser Asn Pro Trp Glu Cys Asn Cys Lys Leu
325 330 335
Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
340 345 350
Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
355 360 365
Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
370 375 380
Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
385 390 395 400
Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
405 410 415
Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
420 425 430
Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
435 440 445

Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
 450 455 460

Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
 465 470 475 480

Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
 485 490 495

Phe Asp Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile
 500 505 510

Phe Leu Ile Tyr Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser
 515 520 525

Glu Asn Ser Arg Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser
 530 535 540

Ala Arg Tyr Asn Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser
 545 550 555 560

Leu Glu Ser Pro Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val
 565 570 575

Pro Glu Asn Glu Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
 580 585 590

<210> 26
 <211> 498
 <212> PRT
 <213> Homo sapiens

<400> 26
 Cys Ser Ser Val Cys Gln Leu Cys Thr Gly Arg Gln Ile Asn Cys Arg
 1 5 10 15

Asn Leu Gly Leu Ser Ser Ile Pro Lys Asn Phe Pro Glu Ser Thr Val
 20 25 30

Phe Leu Tyr Leu Thr Gly Asn Asn Ile Ser Tyr Ile Asn Glu Ser Glu
 35 40 45

Leu Thr Gly Leu His Ser Leu Val Ala Leu Tyr Leu Asp Asn Ser Asn
 50 55 60

Ile Leu Tyr Val Tyr Pro Lys Ala Phe Val Gln Leu Arg His Leu Tyr
 65 70 75 80

Phe	Leu	Phe	Leu	Asn	Asn	Asn	Phe	Ile	Lys	Arg	Leu	Asp	Pro	Gly	Ile	
				85					90						95	
Phe	Lys	Gly	Leu	Leu	Asn	Leu	Arg	Asn	Leu	Tyr	Leu	Gln	Tyr	Asn	Gln	
			100					105					110			
Val	Ser	Phe	Val	Pro	Arg	Gly	Val	Phe	Asn	Asp	Leu	Val	Ser	Val	Gln	
		115					120					125				
Tyr	Leu	Asn	Leu	Gln	Arg	Asn	Arg	Leu	Thr	Val	Leu	Gly	Ser	Gly	Thr	
	130					135					140					
Phe	Val	Gly	Met	Val	Ala	Leu	Arg	Ile	Leu	Asp	Leu	Ser	Asn	Asn	Asn	
145					150					155					160	
Ile	Leu	Arg	Ile	Ser	Glu	Ser	Gly	Phe	Gln	His	Leu	Glu	Asn	Leu	Ala	
				165					170						175	
Cys	Leu	Tyr	Leu	Gly	Ser	Asn	Asn	Leu	Thr	Lys	Val	Pro	Ser	Asn	Ala	
			180					185					190			
Phe	Glu	Val	Leu	Lys	Ser	Leu	Arg	Arg	Leu	Ser	Leu	Ser	His	Asn	Pro	
		195					200					205				
Ile	Glu	Ala	Ile	Gln	Pro	Phe	Ala	Phe	Lys	Gly	Leu	Ala	Asn	Leu	Glu	
	210					215					220					
Tyr	Leu	Leu	Leu	Lys	Asn	Ser	Arg	Ile	Arg	Asn	Val	Thr	Arg	Asp	Gly	
225					230					235					240	
Phe	Ser	Gly	Ile	Asn	Asn	Leu	Lys	His	Leu	Ile	Leu	Ser	His	Asn	Asp	
				245					250					255		
Leu	Glu	Asn	Leu	Asn	Ser	Asp	Thr	Phe	Ser	Leu	Leu	Lys	Asn	Leu	Ile	
			260					265					270			
Tyr	Leu	Lys	Leu	Asp	Arg	Asn	Arg	Ile	Ile	Ser	Ile	Asp	Asn	Asp	Thr	
		275					280					285				
Phe	Glu	Asn	Met	Gly	Ala	Ser	Leu	Lys	Ile	Leu	Asn	Leu	Ser	Phe	Asn	
	290					295					300					
Asn	Leu	Thr	Ala	Leu	His	Pro	Arg	Val	Leu	Lys	Pro	Leu	Ser	Ser	Leu	
305					310					315					320	
Ile	His	Leu	Gln	Ala	Asn	Ser	Asn	Pro	Trp	Glu	Cys	Asn	Cys	Lys	Leu	
				325					330					335		

Leu Gly Leu Arg Asp Trp Leu Ala Ser Ser Ala Ile Thr Leu Asn Ile
 340 345 350

Tyr Cys Gln Asn Pro Pro Ser Met Arg Gly Arg Ala Leu Arg Tyr Ile
 355 360 365

Asn Ile Thr Asn Cys Val Thr Ser Ser Ile Asn Val Ser Arg Ala Trp
 370 375 380

Ala Val Val Lys Ser Pro His Ile His His Lys Thr Thr Ala Leu Met
 385 390 395 400

Met Ala Trp His Lys Val Thr Thr Asn Gly Ser Pro Leu Glu Asn Thr
 405 410 415

Glu Thr Glu Asn Ile Thr Phe Trp Glu Arg Ile Pro Thr Ser Pro Ala
 420 425 430

Gly Arg Phe Phe Gln Glu Asn Ala Phe Gly Asn Pro Leu Glu Thr Thr
 435 440 445

Ala Val Leu Pro Val Gln Ile Gln Leu Thr Thr Ser Val Thr Leu Asn
 450 455 460

Leu Glu Lys Asn Ser Ala Leu Pro Asn Asp Ala Ala Ser Met Ser Gly
 465 470 475 480

Lys Thr Ser Leu Ile Cys Thr Gln Glu Val Glu Lys Leu Asn Glu Ala
 485 490 495

Phe Asp

<210> 27

<211> 18

<212> PRT

<213> Homo sapiens

<400> 27

Ile Leu Leu Ala Phe Phe Ile Leu Ala Cys Val Leu Ile Ile Phe Leu
 1 5 10 15

Ile Tyr

<210> 28
 <211> 75
 <212> PRT
 <213> Homo sapiens

<400> 28
 Lys Val Val Gln Phe Lys Gln Lys Leu Lys Ala Ser Glu Asn Ser Arg
 1 5 10 15
 Glu Asn Arg Leu Glu Tyr Tyr Ser Phe Tyr Gln Ser Ala Arg Tyr Asn
 20 25 30
 Val Thr Ala Ser Ile Cys Asn Thr Ser Pro Asn Ser Leu Glu Ser Pro
 35 40 45
 Gly Leu Glu Gln Ile Arg Leu His Lys Gln Ile Val Pro Glu Asn Glu
 50 55 60
 Ala Gln Val Ile Leu Phe Glu His Ser Ala Leu
 65 70 75

<210> 29
 <211> 1529
 <212> PRT
 <213> Homo sapiens

<400> 29
 Met Arg Gly Val Gly Trp Gln Met Leu Ser Leu Ser Leu Gly Leu Val
 1 5 10 15
 Leu Ala Ile Leu Asn Lys Val Ala Pro Gln Ala Cys Pro Ala Gln Cys
 20 25 30
 Ser Cys Ser Gly Ser Thr Val Asp Cys His Gly Leu Ala Leu Arg Ser
 35 40 45
 Val Pro Arg Asn Ile Pro Arg Asn Thr Glu Arg Leu Asp Leu Asn Gly
 50 55 60
 Asn Asn Ile Thr Arg Ile Thr Lys Thr Asp Phe Ala Gly Leu Arg His
 65 70 75 80
 Leu Arg Val Leu Gln Leu Met Glu Asn Lys Ile Ser Thr Ile Glu Arg
 85 90 95
 Gly Ala Phe Gln Asp Leu Lys Glu Leu Glu Arg Leu Arg Leu Asn Arg
 100 105 110

Asn His Leu Gln Leu Phe Pro Glu Leu Leu Phe Leu Gly Thr Ala Lys
 115 120 125

Leu Tyr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Ala Ile Pro Arg
 130 135 140

Lys Ala Phe Arg Gly Ala Val Asp Ile Lys Asn Leu Gln Leu Asp Tyr
 145 150 155 160

Asn Gln Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu Arg Asp
 165 170 175

Leu Glu Val Leu Thr Leu Asn Asn Asn Asn Ile Thr Arg Leu Ser Val
 180 185 190

Ala Ser Phe Asn His Met Pro Lys Leu Arg Thr Phe Arg Leu His Ser
 195 200 205

Asn Asn Leu Tyr Cys Asp Cys His Leu Ala Trp Leu Ser Asp Trp Leu
 210 215 220

Arg Gln Arg Pro Arg Val Gly Leu Tyr Thr Gln Cys Met Gly Pro Ser
 225 230 235 240

His Leu Arg Gly His Asn Val Ala Glu Val Gln Lys Arg Glu Phe Val
 245 250 255

Cys Ser Gly His Gln Ser Phe Met Ala Pro Ser Cys Ser Val Leu His
 260 265 270

Cys Pro Ala Ala Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly
 275 280 285

Lys Gly Leu Thr Glu Ile Pro Thr Asn Leu Pro Glu Thr Ile Thr Glu
 290 295 300

Ile Arg Leu Glu Gln Asn Thr Ile Lys Val Ile Pro Pro Gly Ala Phe
 305 310 315 320

Ser Pro Tyr Lys Lys Leu Arg Arg Ile Asp Leu Ser Asn Asn Gln Ile
 325 330 335

Ser Glu Leu Ala Pro Asp Ala Phe Gln Gly Leu Arg Ser Leu Asn Ser
 340 345 350

Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Leu Pro Lys Ser Leu Phe
 355 360 365

Glu Gly Leu Phe Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys Ile
 370 375 380
 Asn Cys Leu Arg Val Asp Ala Phe Gln Asp Leu His Asn Leu Asn Leu
 385 390 395 400
 Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ala Lys Gly Thr Phe
 405 410 415
 Ser Pro Leu Arg Ala Ile Gln Thr Met His Leu Ala Gln Asn Pro Phe
 420 425 430
 Ile Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu His Thr Asn
 435 440 445
 Pro Ile Glu Thr Ser Gly Ala Arg Cys Thr Ser Pro Arg Arg Leu Ala
 450 455 460
 Asn Lys Arg Ile Gly Gln Ile Lys Ser Lys Lys Phe Arg Cys Ser Ala
 465 470 475 480
 Lys Glu Gln Tyr Phe Ile Pro Gly Thr Glu Asp Tyr Arg Ser Lys Leu
 485 490 495
 Ser Gly Asp Cys Phe Ala Asp Leu Ala Cys Pro Glu Lys Cys Arg Cys
 500 505 510
 Glu Gly Thr Thr Val Asp Cys Ser Asn Gln Lys Leu Asn Lys Ile Pro
 515 520 525
 Glu His Ile Pro Gln Tyr Thr Ala Glu Leu Arg Leu Asn Asn Asn Glu
 530 535 540
 Phe Thr Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Gln Leu
 545 550 555 560
 Arg Lys Ile Asn Phe Ser Asn Asn Lys Ile Thr Asp Ile Glu Glu Gly
 565 570 575
 Ala Phe Glu Gly Ala Ser Gly Val Asn Glu Ile Leu Leu Thr Ser Asn
 580 585 590
 Arg Leu Glu Asn Val Gln His Lys Met Phe Lys Gly Leu Glu Ser Leu
 595 600 605
 Lys Thr Leu Met Leu Arg Ser Asn Arg Ile Thr Cys Val Gly Asn Asp
 610 615 620

Ser Phe Ile Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn
 625 630 635 640
 Gln Ile Thr Thr Val Ala Pro Gly Ala Phe Asp Thr Leu His Ser Leu
 645 650 655
 Ser Thr Leu Asn Leu Leu Ala Asn Pro Phe Asn Cys Asn Cys Tyr Leu
 660 665 670
 Ala Trp Leu Gly Glu Trp Leu Arg Lys Lys Arg Ile Val Thr Gly Asn
 675 680 685
 Pro Arg Cys Gln Lys Pro Tyr Phe Leu Lys Glu Ile Pro Ile Gln Asp
 690 695 700
 Val Ala Ile Gln Asp Phe Thr Cys Asp Asp Gly Asn Asp Asp Asn Ser
 705 710 715 720
 Cys Ser Pro Leu Ser Arg Cys Pro Thr Glu Cys Thr Cys Leu Asp Thr
 725 730 735
 Val Val Arg Cys Ser Asn Lys Gly Leu Lys Val Leu Pro Lys Gly Ile
 740 745 750
 Pro Arg Asp Val Thr Glu Leu Tyr Leu Asp Gly Asn Gln Phe Thr Leu
 755 760 765
 Val Pro Lys Glu Leu Ser Asn Tyr Lys His Leu Thr Leu Ile Asp Leu
 770 775 780
 Ser Asn Asn Arg Ile Ser Thr Leu Ser Asn Gln Ser Phe Ser Asn Met
 785 790 795 800
 Thr Gln Leu Leu Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile
 805 810 815
 Pro Pro Arg Thr Phe Asp Gly Leu Lys Ser Leu Arg Leu Leu Ser Leu
 820 825 830
 His Gly Asn Asp Ile Ser Val Val Pro Glu Gly Ala Phe Asn Asp Leu
 835 840 845
 Ser Ala Leu Ser His Leu Ala Ile Gly Ala Asn Pro Leu Tyr Cys Asp
 850 855 860
 Cys Asn Met Gln Trp Leu Ser Asp Trp Val Lys Ser Glu Tyr Lys Glu
 865 870 875 880

Pro Gly Ile Ala Arg Cys Ala Gly Pro Gly Glu Met Ala Asp Lys Leu
 885 890 895

Leu Leu Thr Thr Pro Ser Lys Lys Phe Thr Cys Gln Gly Pro Val Asp
 900 905 910

Val Asn Ile Leu Ala Lys Cys Asn Pro Cys Leu Ser Asn Pro Cys Lys
 915 920 925

Asn Asp Gly Thr Cys Asn Ser Asp Pro Val Asp Phe Tyr Arg Cys Thr
 930 935 940

Cys Pro Tyr Gly Phe Lys Gly Gln Asp Cys Asp Val Pro Ile His Ala
 945 950 955 960

Cys Ile Ser Asn Pro Cys Lys His Gly Gly Thr Cys His Leu Lys Glu
 965 970 975

Gly Glu Glu Asp Gly Phe Trp Cys Ile Cys Ala Asp Gly Phe Glu Gly
 980 985 990

Glu Asn Cys Glu Val Asn Val Asp Asp Cys Glu Asp Asn Asp Cys Glu
 995 1000 1005

Asn Asn Ser Thr Cys Val Asp Gly Ile Asn Asn Tyr Thr Cys Leu Cys
 1010 1015 1020

Pro Pro Glu Tyr Thr Gly Glu Leu Cys Glu Glu Lys Leu Asp Phe Cys
 1025 1030 1035 1040

Ala Gln Asp Leu Asn Pro Cys Gln His Asp Ser Lys Cys Ile Leu Thr
 1045 1050 1055

Pro Lys Gly Phe Lys Cys Asp Cys Thr Pro Gly Tyr Val Gly Glu His
 1060 1065 1070

Cys Asp Ile Asp Phe Asp Asp Cys Gln Asp Asn Lys Cys Lys Asn Gly
 1075 1080 1085

Ala His Cys Thr Asp Ala Val Asn Gly Tyr Thr Cys Ile Cys Pro Glu
 1090 1095 1100

Gly Tyr Ser Gly Leu Phe Cys Glu Phe Ser Pro Pro Met Val Leu Pro
 1105 1110 1115 1120

Arg Thr Ser Pro Cys Asp Asn Phe Asp Cys Gln Asn Gly Ala Gln Cys
 1125 1130 1135

Ile Val Arg Ile Asn Glu Pro Ile Cys Gln Cys Leu Pro Gly Tyr Gln
 1140 1145 1150
 Gly Glu Lys Cys Glu Lys Leu Val Ser Val Asn Phe Ile Asn Lys Glu
 1155 1160 1165
 Ser Tyr Leu Gln Ile Pro Ser Ala Lys Val Arg Pro Gln Thr Asn Ile
 1170 1175 1180
 Thr Leu Gln Ile Ala Thr Asp Glu Asp Ser Gly Ile Leu Leu Tyr Lys
 1185 1190 1195 1200
 Gly Asp Lys Asp His Ile Ala Val Glu Leu Tyr Arg Gly Arg Val Arg
 1205 1210 1215
 Ala Ser Tyr Asp Thr Gly Ser His Pro Ala Ser Ala Ile Tyr Ser Val
 1220 1225 1230
 Glu Thr Ile Asn Asp Gly Asn Phe His Ile Val Glu Leu Leu Ala Leu
 1235 1240 1245
 Asp Gln Ser Leu Ser Leu Ser Val Asp Gly Gly Asn Pro Lys Ile Ile
 1250 1255 1260
 Thr Asn Leu Ser Lys Gln Ser Thr Leu Asn Phe Asp Ser Pro Leu Tyr
 1265 1270 1275 1280
 Val Gly Gly Met Pro Gly Lys Ser Asn Val Ala Ser Leu Arg Gln Ala
 1285 1290 1295
 Pro Gly Gln Asn Gly Thr Ser Phe His Gly Cys Ile Arg Asn Leu Tyr
 1300 1305 1310
 Ile Asn Ser Glu Leu Gln Asp Phe Gln Lys Val Pro Met Gln Thr Gly
 1315 1320 1325
 Ile Leu Pro Gly Cys Glu Pro Cys His Lys Lys Val Cys Ala His Gly
 1330 1335 1340
 Thr Cys Gln Pro Ser Ser Gln Ala Gly Phe Thr Cys Glu Cys Gln Glu
 1345 1350 1355 1360
 Gly Trp Met Gly Pro Leu Cys Asp Gln Arg Thr Asn Asp Pro Cys Leu
 1365 1370 1375
 Gly Asn Lys Cys Val His Gly Thr Cys Leu Pro Ile Asn Ala Phe Ser
 1380 1385 1390

Tyr Ser Cys Lys Cys Leu Glu Gly His Gly Gly Val Leu Cys Asp Glu
1395 1400 1405

Glu Glu Asp Leu Phe Asn Pro Cys Gln Ala Ile Lys Cys Lys His Gly
1410 1415 1420

Lys Cys Arg Leu Ser Gly Leu Gly Gln Pro Tyr Cys Glu Cys Ser Ser
1425 1430 1435 1440

Gly Tyr Thr Gly Asp Ser Cys Asp Arg Glu Ile Ser Cys Arg Gly Glu
1445 1450 1455

Arg Ile Arg Asp Tyr Tyr Gln Lys Gln Gln Gly Tyr Ala Ala Cys Gln
1460 1465 1470

Thr Thr Lys Lys Val Ser Arg Leu Glu Cys Arg Gly Gly Cys Ala Gly
1475 1480 1485

Gly Gln Cys Cys Gly Pro Leu Arg Ser Lys Arg Arg Lys Tyr Ser Phe
1490 1495 1500

Glu Cys Thr Asp Gly Ser Ser Phe Val Asp Glu Val Glu Lys Val Val
1505 1510 1515 1520

Lys Cys Gly Cys Thr Arg Cys Val Ser
1525

<210> 30

<211> 4900

<212> DNA

<213> Homo sapiens

<400> 30

cagagcaggg tggagagggc ggtgggagggc gtgtgcctga gtgggctcta ctgccttggt 60
ccatattatt ttgtgcacat tttccctggc actctgggtt gctagccccg ccgggcactg 120
ggcctcagac actgcgcggt tccctcggag cagcaagcta aagaaagccc ccagtgcccg 180
cgaggaagga ggcggcgggg aaagatgcgc ggcgttggtt ggcagatgct gtccctgtcg 240
ctgggggttag tgctggcgat cctgaacaag gtggcaccgc aggcgtgccc ggcgcagtgc 300
tcttgctcgg gcagcacagt ggactgtcac gggctggcgc tgcgcagcgt gccaggaat 360
atcccccgca acaccgagag actggattta aatggaaata acatcacaag aattacgaag 420
acagattttg ctggtcttag acatctaaga gttcttcagc ttatggagaa taagattagc 480
accattgaaa gaggagcatt ccaggatctt aaagaactag agagactgcg tttaaacaga 540
aatcaccttc agctgtttcc tgagttgctg tttcttggga ctgcgaagct atacaggcct 600
gatctcagtg aaaaccaaatt tcaggcaatc ccaaggaaag ctttccgtgg ggcagttgac 660
ataaaaaatt tgcaactgga ttacaaccag atcagctgta ttgaagatgg ggcattcagg 720
gctctccggg acctggaagt gctcactctc aacaataaca acattactag actttctgtg 780

gcaagtttca	accatatgcc	taaacttagg	acttttgcgac	tgcattcaaa	caacctgtat	840
tgtgactgcc	acctggcctg	gctctccgac	tggcttcgcc	aaaggcctcg	ggttgggtctg	900
tacactcagt	gtatgggccc	ctcccacctg	agaggccata	atgtagccga	ggttcaaaaa	960
cgagaatttg	tctgcagtg	tcaccagtca	tttatggctc	cttcttgtag	tgttttgcac	1020
tgccctgccg	cctgtacctg	tagcaacaat	atcgtagact	gtcgtgggaa	aggtctcact	1080
gagatcccca	caaactcttc	agagaccatc	acagaaatac	gtttggaaca	gaacacaatc	1140
aaagtcatcc	ctcctggagc	tttctcacca	tataaaaagc	ttagacgaat	tgacctgagc	1200
aataatcaga	tctctgaact	tgaccagat	gctttccaag	gactacgctc	tctgaattca	1260
cttgtctct	atggaaataa	aatcacagaa	ctccccaaaa	gtttatttga	aggactgttt	1320
tccttacagc	tcctattatt	gaatgccaac	aagataaact	gccttcgggt	agatgctttt	1380
caggatctcc	acaacttgaa	ccttctctcc	ctatatgaca	acaagcttca	gaccatcgcc	1440
aaggggacct	tttcacctct	tcggggccatt	caaactatgc	atttgGCCCA	gaaccccttt	1500
atttgtgact	gccatctcaa	gtggctagcg	gattatctcc	ataccaaccc	gattgagacc	1560
agtggtgccc	gttgaccag	ccccgcgcg	ctggcaaaaca	aaagaattgg	acagatcaaa	1620
agcaagaaat	tccgttggtc	agctaaagaa	cagtatttca	ttccagggtac	agaagattat	1680
cgatcaaaat	taagtggaga	ctgctttgCG	gatctggctt	gccctgaaaa	gtgtcgctgt	1740
gaaggaacca	cagtagattg	ctctaataca	aagctcaaca	aaatcccgga	gcacattccc	1800
cagtacactg	cagagttgCG	tctcaataat	aatgaattta	ccgtgttgga	agccacagga	1860
atctttaaga	aacttcctca	attacgtaaa	ataaacttta	gcaacaataa	gatcacagat	1920
attgaggagg	gagcatttga	aggagcatct	ggtgtaaata	aaatacttct	tacgagtaat	1980
cgtttgaaaa	atgtgcagca	taagatgttc	aagggttg	aaagcctcaa	aactttgatg	2040
ttgagaagca	atcgaataac	ctgtgtgggg	aatgacagtt	tcataggact	cagttctgtg	2100
cgtttgcttt	ctttgtatga	taatcaaatt	actacagttg	caccaggggc	atttgatact	2160
ctccattctt	tatctactct	aaacctcttg	gccaatcctt	ttaactgtaa	ctgctacctg	2220
gcttggttg	gagagtggct	gagaaagaag	agaattgtca	cgggaaatcc	tagatgtcaa	2280
aaaccatact	tcctgaaaga	aatacccatc	caggatgtgg	ccattcagga	cttcacttgt	2340
gatgacggaa	atgatgacaa	tagttgctcc	ccactttctc	gctgtcctac	tgaatgtact	2400
tgcttgata	cagtcgtccg	atgtagcaac	aagggtttga	aggtcttgcc	gaaaggtatt	2460
ccaagagatg	tcacagagtt	gtatctggat	ggaaaccaat	ttacactggt	tccaaggaa	2520
ctctccaact	acaaacattt	aacacttata	gacttaagta	acaacagaat	aagcacgctt	2580
tctaatacaga	gcttcagcaa	catgaccag	ctcctcacct	taattcttag	ttacaaccgt	2640
ctgagatgta	ttcctcctcg	cacctttgat	ggattaaagt	ctcttcgatt	actttctcta	2700
catggaaatg	acatttctgt	tgtgcctgaa	ggtgctttca	atgatctttc	tgcattatca	2760
catctagcaa	ttggagccaa	ccctctttac	tgtgattgta	acatgcagtg	gttatccgac	2820
tgggtgaagt	cggaatataa	ggagcctgga	attgctcggt	gtgctgggtcc	tgagagaaatg	2880
gcagataaac	ttttactcac	aactccctcc	aaaaaattta	cctgtcaagg	tcctgtggat	2940
gtcaatattc	tagctaagtg	taaccctgc	ctatcaaatac	cgtgtaaaaa	tgatggcaca	3000
tgtaatagtg	atccagttga	cttttaccga	tgacactgtc	catatgggtt	caaggggcag	3060
gactgtgatg	tcccaattca	tgctgcatc	agtaacccat	gtaaacatgg	aggaacttgc	3120
cacttaaagg	aaggagaaga	agatggattc	tggtgtattt	gtgctgatgg	atttgaagga	3180
gaaaattgtg	aagtcaacgt	tgatgattgt	gaagataatg	actgtgaaaa	taattctaca	3240
tgtgtcgatg	gcattaataa	ctacacatgc	ctttgcccac	ctgagtatac	aggtgagttg	3300
tgtgaggaga	agctggactt	ctgtgcccag	gacctgaacc	cctgccagca	cgattcaaag	3360
tgcatcctaa	ctccaaagg	attcaaagt	gactgcacac	cagggtacgt	aggtgaacac	3420
tgcgacatcg	attttgacga	ctgccaagac	aacaagtgtg	aaaacggagc	ccactgcaca	3480
gatgcagtg	acggctatac	gtgcatatgc	cccgaagggt	acagtggctt	gttctgtgag	3540
tttctccac	ccatggctct	ccctcgatcc	agccctgtg	ataattttga	ttgtcagaat	3600
ggagctcagt	gtatcgtcag	aataaatgag	ccaatatgtc	agtgtttgcc	tggtatcag	3660

```

ggagaaaagt gtgaaaaatt ggttagtggtg aattttataa acaaagagtc ttatcttcag 3720
attccttcag ccaaggttcg gcctcagacg aacataacac ttcagattgc cacagatgaa 3780
gacagcggaa tcctcctgta taagggtgac aaagaccata tcgcggtaga actctatcgg 3840
gggctgtgtc gtgccagcta tgacaccggc tctcatccag cttctgccat ttacagtgtg 3900
gagacaatca atgatggaaa cttccacatt gtggaactac ttgccttggg tcagagtctc 3960
tctttgtccg tggatgggtg gaaccccaaa atcatcacta acttgtcaaa gcagtccact 4020
ctgaattttg actctccact ctatgtagga ggcattgccg ggaagagtaa cgtggcatct 4080
ctgcgccagg cccctgggca gaacggaacc agcttccacg gctgcatccg gaacctttac 4140
atcaacagtg agctgcagga cttccagaag gtgccgatgc aaacaggcat tttgcctggc 4200
tgtgagccat gccacaagaa ggtgtgtgcc catggcacat gccagcccag cagccaggca 4260
ggcttcacct gcgagtcca ggaaggatgg atggggcccc tctgtgacca acggaccaat 4320
gaccttgcc ttggaaataa atgcgtacat ggcacctgct tgcccatcaa tgcgttctcc 4380
tacagctgta agtgcttggg gggccatgga ggtgtcctct gtgatgaaga ggaggatctg 4440
tttaacccat gccaggcgat caagtgaag cacgggaagt gcaggctttc aggtctgggg 4500
cagccctact gtgaatgcag cagtggatac acgggggaca gctgtgatcg agaaatctct 4560
tgtcgagggg aaaggataag agattattac caaagcagc agggctatgc tgcttgccaa 4620
acaaccaaga aggtgtcccg attagagtgc agaggtgggt gtgcaggagg gcagtgtgtg 4680
ggaccgctga ggagcaagcg gcggaatac tctttcgaat gcactgacgg ctccctcttt 4740
gtggacgagg ttgagaaagt ggtgaagtgc ggctgtacga ggtgtgtgtc ctaaacacac 4800
tcccggcagc tctgtctttg gaaaagggtg tatacttctt gaccatgtgg gactaatgaa 4860
tgcttcatag tggaaatatt tgaaatatat tgtaaaatac 4900

```

<210> 31

<211> 3510

<212> DNA

<213> Homo sapiens

<400> 31

```

gcagctctgg gggagctcgg agctcccgat cacggcttct tgggggtagc tacggctggg 60
tgtgtagaac ggggcccggg ctggggctgg gtcccctagt ggagacccaa gtgcgagagg 120
caagaactct gcagcttcct gccttctcgg tcagttcctt attcaagtct gcagccggct 180
cccagggaga tctcggtgga acttcagaaa cgctgggcag tctgccttcc aacctgccc 240
ctgtccctgg gagccgagat gtgggggcct gaggcctggc tgctgctgct gctactgctg 300
gcatcattta caggccggtg ccccgcggtg gagctggaga cctcagacgt ggtaactgtg 360
gtgctgggcc aggacgcaaa actgccctgc ttctaccgag gggactccgg cgagcaagtg 420
gggcaagtgg catgggctcg ggtggacgcg ggcgaaggcg cccaggaact agcgctactg 480
cactccaaat acgggcttca tgtgagcccg gcttacgagg gccgcgtgga gcagccgccg 540
ccccacgca accccctgga cggctcagtg ctccctgcgca acgcagtgca ggcggatgag 600
ggcgagtacg agtgccgggt cagcaccttc ccgcgcggca gcttcaggc gcggctgcgg 660
ctccgagtgc tgggtgcctcc cctgcctca ctgaatcctg gtccagcact agaagagggc 720
cagggcctga ccctggcagc ctccctgcaca gctgagggca gcccagcccc cagcgtgacc 780
tgggacacgg aggtcaaaag cacaacgtcc agccgttcc tcaagcactc ccgctctgct 840
gccgtcacct cagagttcca cttggtgcct agccgcagca tgaatgggca gccactgact 900
tgtgtgggtg cccatcctgg cctgctccag gaccaaagga tcaccacat cctccacgtg 960
tccttccttg ctgaggcctc tgtgaggggc cttgaagacc aaaatctgtg gcacattggc 1020
agagaaggag ctatgctcaa gtgcctgagt gaagggcagc cccctccctc atacaactgg 1080
acacggctgg atgggcctct gccagtgagg gtacgagtgg atggggacac tttgggcttt 1140

```

ccccactga	ccactgagca	cagcggcatc	tacgtctgcc	atgtcagcaa	tgagttctcc	1200
tcaagggatt	ctcaggtcac	tgtggatggt	cttgaccccc	aggaagactc	tgggaagcag	1260
gtggacctag	tgtcagcctc	ggtggtggtg	gtgggtgtga	tgcgccgact	cttgttctgc	1320
cttctggtgg	tggtggtggt	gctcatgtcc	cgataccatc	ggcgcaaggc	ccagcagatg	1380
acccagaaat	atgaggagga	gctgaccctg	accagggaga	actccatccg	gaggctgcat	1440
tcccatcaca	cggacccccag	gagccagccg	gaggagagtg	tagggctgag	agccgagggc	1500
caccctgata	gtctcaagga	caacagtagc	tgctctgtga	tgagtgaaga	gcccaggggc	1560
cgcagttact	ccacgctgac	cacggtgagg	gagatagaaa	cacagactga	actgctgtct	1620
ccaggctctg	ggcgggccga	ggaggaggaa	gatcaggatg	aaggcatcaa	acaggccatg	1680
aaccattttg	ttcaggagaa	tgggacccta	cgggccaaagc	ccacgggcaa	tggcatctac	1740
atcaatgggc	ggggacacct	ggtctgacct	aggcctgcct	cccttcccta	ggcctggctc	1800
cttctgttga	catgggagat	tttagctcat	cttggggggc	tccttaaaca	ccccatttc	1860
ttgcggaaga	tgctcccat	cccactgact	gcttgacctt	tacctccaac	ccttctgttc	1920
atcgggaggg	ctccaccaat	tgagtctctc	ccaccatgca	tgcaggtcac	tgtgtgtgtg	1980
catgtgtgcc	tgtgtgagtg	ttgactgact	gtgtgtgtgt	ggaggggtga	ctgtccgtgg	2040
aggggtgact	gtgtccgtgg	tgtgtattat	gctgtcatat	cagagtcaag	tgaactgtgg	2100
tgtatgtgcc	acgggatttg	agtggttgcg	tgggcaacac	tgtcagggtt	tggcgtgtgt	2160
gtcatgtggc	tgtgtgtgac	ctctgcctga	aaaagcaggt	atthttctcag	acccagagc	2220
agtattaatg	atgcagaggt	tggaggagag	aggtggagac	tgtggctcag	acccagggtg	2280
gcgggcatag	ctggagctgg	aatctgcctc	cgggtgtgagg	gaacctgtct	cctaccactt	2340
cggagccatg	ggggcaagtg	tgaagcagcc	agtccttggg	tcagccagag	gcttgaactg	2400
ttacagaagc	cctctgccct	ctggtggcct	ctgggcctgc	tgcattgaca	tattttctgt	2460
aaatatacat	gcgccgggag	cttcttgcat	gaatactgct	ccgaatcact	tttaattttt	2520
ttcttttttt	tttcttgccc	tttccattag	ttgtattttt	tattttatttt	tatttttatt	2580
tttttttaga	gatggagtct	cactatgttg	ctcaggctgg	ccttgaactc	ctgggctcaa	2640
gcaatcctcc	tgcctcagcc	tccttagtag	ctgggacttt	aagtgtacac	cactgtgcct	2700
gctttgaatc	ctttacgaag	agaaaaaaaa	aattaaagaa	agcctttaga	tttatccaat	2760
gtttactact	gggattgctt	aaagtgaggc	ccctccaaca	ccaggggggt	aattcctgtg	2820
attgtgaaag	gggctacttc	caaggcatct	tcattgcaggc	agcccccttg	gagggcacct	2880
gagagctggt	agagtctgaa	attagggatg	tgagcctcgt	ggttactgag	taaggtaaaa	2940
ttgcatccac	cattgtttgt	gataccttag	ggaattgctt	ggacctggtg	acaagggtc	3000
ctgttcaata	gtggtgttg	ggagagagag	agcagtgatt	atagaccgag	agagtaggag	3060
ttgaggtgag	gtgaaggagg	tgctgggggt	gagaatgtcg	cctttcccc	tgggttttgg	3120
atcactaatt	caaggctctt	ctggatgttt	ctctgggttg	gggctggagt	tcaatgaggt	3180
ttatttttag	ctggccacc	cagatacact	cagccagaat	acctagattt	agtacccaaa	3240
ctcttcttag	tctgaaatct	gctggatttc	tggcctaagg	gagaggctcc	catccttcgt	3300
tccccagcca	gcctaggact	tcgaatgtgg	agcctgaaga	tctaagatcc	taacatgtac	3360
atthttatgta	aatatgtgca	tattttgtaca	taaaatgata	ttctgttttt	aaataaacag	3420
acaaaacttg	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3480
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa				3510

<210> 32

<211> 1530

<212> DNA

<213> Homo sapiens

<400> 32

```

atgccccctgt ccctggggagc cgagatgtgg gggcctgagg cctgggtgct gctgctgcta 60
ctgctggcat catttacagg ccggtgcccc gcgggtgagc tggagacctc agacgtggta 120
actgtgggtgc tgggccagga cgcaaaactg ccctgcttct accgagggga ctccggcgag 180
caagtggggc aagtggcatg ggctcgggtg gacgcgggcg aaggcgccca ggaactagcg 240
ctactgcact ccaaatacgg gcttcatgtg agcccggtt acgagggccg cgtggagcag 300
ccgccgcccc cacgcaaccc cctggacggc tcagtgtcc tgcgcaacgc agtgcaggcg 360
gatgagggcg agtacgagtg ccgggtcagc accttccccg ccggcagctt ccaggcgcg 420
ctggggctcc gagtgtggt gcctcccctg ccctcactga atcctggctc agcactagaa 480
gagggccagg gcctgaccct ggcagcctcc tgcacagctg agggcagccc agccccagc 540
gtgacctggg acacggaggt caaaggcaca acgtccagcc gttccttcaa gcaactccgc 600
tctgtcgccg tcacctcaga gttccacttg gtgcctagcc gcagcatgaa tgggcagcca 660
ctgacttgtg tgggtgtcca tcctggcctg ctccaggacc aaaggatcac ccacatcctc 720
cacgtgtcct tccttgctga ggccctctgt aggggccttg aagacccaaa tctgtggcac 780
attggcagag aaggagctat gctcaagtgc ctgagtgaag ggcagcccc tccctcatac 840
aactggacac ggctggatgg gcctctgccc agtggggtac gagtggatgg ggacactttg 900
ggctttcccc cactgaccac tgagcacagc ggcactctac tctgccatgt cagcaatgag 960
ttctcctcaa gggattctca ggctcactgt gatgttcttg acccccagga agactctggg 1020
aagcaggtgg acctagtgtc agcctcgggt gtggtggtgg gtgtgatcgc cgcactcttg 1080
ttctgccttc tgggtgtggt ggtggtgctc atgtcccgat accatcggcg caaggcccag 1140
cagatgacct agaaatatga ggaggagctg accctgacca gggagaactc catccggagg 1200
ctgcattccc atcacacgga ccccaggagc cagccggagg agagtgtagg gctgagagcc 1260
gagggccacc ctgatagtct caaggacaac agtagctgct ctgtgatgag tgaagagccc 1320
gagggccgca gttactccac gctgaccacg gtgagggaga tagaaacaca gactgaactg 1380
ctgtctccag gctctgggcg ggccgaggag gaggaagatc aggatgaagg catcaaacag 1440
gccatgaacc attttgttca ggagaatggg accctacggg ccaagcccac gggcaatggc 1500
atctacatca atgggcgggg acacctggtc 1530

```

<210> 33

<211> 510

<212> PRT

<213> Homo sapiens

<400> 33

```

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
  1                      5                      10                      15

Leu Leu Leu Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly
      20                      25                      30

Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
      35                      40                      45

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
      50                      55                      60

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
      65                      70                      75                      80

```

Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
 85 90 95

Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
 100 105 110

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
 115 120 125

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
 130 135 140

Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
 145 150 155 160

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
 165 170 175

Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
 180 185 190

Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
 195 200 205

His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
 210 215 220

Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
 225 230 235 240

His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
 245 250 255

Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
 260 265 270

Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285

Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300

Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320

Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro Gln
 325 330 335

Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val
 340 345 350

Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val
 355 360 365

Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln
 370 375 380

Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg
 385 390 395 400

Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val
 405 410 415

Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser
 420 425 430

Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu
 435 440 445

Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly
 450 455 460

Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln
 465 470 475 480

Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro
 485 490 495

Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
 500 505 510

<210> 34

<211> 31

<212> PRT

<213> Homo sapiens

<400> 34

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
 1 5 10 15

Leu Leu Leu Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala
 20 25 30

<210> 35
 <211> 479
 <212> PRT
 <213> Homo sapiens

<400> 35
 Gly Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp
 1 5 10 15
 Ala Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly
 20 25 30
 Gln Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu
 35 40 45
 Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
 50 55 60
 Gly Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
 65 70 75 80
 Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
 85 90 95
 Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
 100 105 110
 Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
 115 120 125
 Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
 130 135 140
 Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
 145 150 155 160
 Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
 165 170 175
 Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
 180 185 190
 Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
 195 200 205
 Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
 210 215 220

<210> 36

<211> 314

<212> PRT

<213> Homo sapiens

<400> 36

Gly Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp
1 5 10 15

Ala Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly
20 25 30

Gln Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu
35 40 45

Ala Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu
50 55 60

Gly Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser
65 70 75 80

Val Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys
85 90 95

Arg Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu
100 105 110

Arg Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu
115 120 125

Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly
130 135 140

Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr
145 150 155 160

Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu
165 170 175

Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys
180 185 190

Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile
195 200 205

Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp
210 215 220

Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu
 225 230 235 240

Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly
 245 250 255

Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro
 260 265 270

Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn
 275 280 285

Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro
 290 295 300

Gln Glu Asp Ser Gly Lys Gln Val Asp Leu
 305 310

<210> 37

<211> 25

<212> PRT

<213> Homo sapiens

<400> 37

Val Ser Ala Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe
 1 5 10 15

Cys Leu Leu Val Val Val Val Val Leu
 20 25

<210> 38

<211> 140

<212> PRT

<213> Homo sapiens

<400> 38

Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln Lys Tyr
 1 5 10 15

Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg Leu His
 20 25 30

Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val Gly Leu
 35 40 45

Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser Cys Ser
50 55 60

Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr
65 70 75 80

Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly
85 90 95

Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met
100 105 110

Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly
115 120 125

Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
130 135 140

<210> 39

<400> 39

000

<210> 40

<400> 40

000

<210> 41

<211> 2510

<212> DNA

<213> Homo sapiens

<400> 41

caaaggcaca acgtccagcc gttccttcaa gcactcccgc tctgctgccg tcacctcaga 60
gttccacttg gtgcctagcc gcagcatgaa tgggcagcca ctgacttggtg tgggtgtcca 120
tcttggcctg ctccaggacc aaaggatcac ccacatctc cacgtgtcct tccttgctga 180
ggcctctgtg aggggccttg aagacaaaaa tctgtggcac attggcagag aaggagctat 240
gctcaagtgc ctgagtgaag ggcagccccc tccctcatac aactggacac ggctggatgg 300
gcctctgccc agtggggtac gagtggatgg ggacactttg ggctttcccc cactgaccac 360
tgagcacagc ggcattctacg tctgcatgtg cagcaatgag ttctcctcaa gggattctca 420
ggtcactgtg gatgttcttg cagaccccca ggaagactct gggaagcagg tggacctagt 480
gtcagcctcg gtggtggtgg tgggtgtgat cgcgcgactc ttgttctgcc ttctggtggt 540
ggtggtggtg ctcatgtccc gataccatcg gcgcaaggcc cagcagatga cccagaaata 600
tgaggaggag ctgaccctga ccaggggagaa ctccatccgg aggtctgcatt cccatcacac 660
ggaccccgag agccagagtg aagagcccgga gggccgcagt tactccacgc tgaccacggt 720
gaggggagata gaaacacaga ctgaactgct gtctccaggc tctgggcggg ccgaggagga 780

```

ggaagatcag gatgaaggca tcaaacaggc catgaaccat tttgttcagg agaatgggac 840
cctacggggcc aagcccacgg gcaatggcat ctacatcaat gggcgggggac acctgggtctg 900
accagggcct gcctcccttc cctaggcctg gctccttctg ttgacatggg agatttttagc 960
tcatcttggg ggctccctta aacaccccca tttcttgcgg aagatgctcc ccatcccact 1020
gactgcttga cctttacctc caacccttct gttcacgcgg agggctccac caattgagtc 1080
tctcccacca tgcacgcagg tcaactgtgtg tgtgcacgtg tgctgtgtg agtggtgact 1140
gactgtgtgt gtgtggaggg gtgactgtcc gtggaggggt gactgtgtcc gtggtgtgta 1200
ttatgctgtc atatcagagt caagtgaact gtggtgtatg tgccacggga tttgagtgg 1260
tgctgtggga acactgtcag ggtttggcgt gtgtgtcatg tggtgtgtg tgacctctgc 1320
ctgaaaaagc aggtattttc tcagacccca gagcagtatt aatgatgcag aggttggagg 1380
agagaggtgg agactgtggc tcagaccag gtgtgcgggc atagctggag ctggaatctg 1440
cctccggtgt gagggaaact gtctcctacc acttcggagc catgggggca agtgtgaagc 1500
agccagtcctc tgggtcagcc agaggcttga actgttacag aagccctctg ccctctggtg 1560
gcctctgggc ctgctgcatg tacatatatt ctgtaaata acatgcgcgc ggagcttctt 1620
gcaggaatac tgctccgaat cacttttaat ttttttctt ttttttctt gccctttcca 1680
ttagttgtat tttttattta tttttattt tattttttt tagagatgga gtctcactat 1740
gttgctcagg ctggccttga actcctgggc tcaagcaatc ctctgcctc agcctcccta 1800
gtagctggga ctttaagtgt acaccactgt gcctgctttg aatcctttac gaagagaaaa 1860
aaaaaattaa agaaagcctt tagatttatc caatgtttac tactgggatt gcttaaagtg 1920
aggccctcc aacaccaggg ggtaattcc tgtgattgtg aaaggggcta cttccaaggc 1980
atcttcatgc aggcagcccc ttgggagggc acctgagagc tggtagagtc tgaaattagg 2040
gatgtgagcc tggtgacaag ggctcctgtt caatagtggg gttggggaga gagagagcag 2100
tgattataga ccgagagagt aggagttag gtgaggtgaa ggaggtgctg ggggtgagaa 2160
tgtgccttt cccctgggt tttggatcac taattcaagg ctcttctgga tgtttctctg 2220
ggttggggct ggagttcaat gaggtttatt tttagctggc ccaccagat acactcagcc 2280
agaataccta gatttagtac ccaaactctt cttagtctga aatctgctgg atttctggcc 2340
taaggagag gctcccatcc ttcgttcccc agccagccta ggacttcgaa tgtggagcct 2400
gaagatctaa gatcctaaca tgtacatttt atgtaaatat gtgcataatt gtacataaaa 2460
tgatattctg tttttaata aacagacaaa acttgaaaaa aaaaaaaaaa 2510

```

<210> 42

<211> 897

<212> DNA

<213> Homo sapiens

<400> 42

```

aaaggcacia cgtccagccg ttccttcaag cactcccgt ctgctgccgt cacctcagag 60
ttccacttgg tgcttagccg cagcatgaat gggcagccac tgacttgtgt ggtgtcccat 120
cctggcctgc tccaggacca aaggatcacc cacatcctcc acgtgtcctt ccttgcctgag 180
gcctctgtga ggggccttga agacaaaaat ctgtggcaca ttggcagaga aggagctatg 240
ctcaagtgcc tgagtgaagg gcagccccct ccctcataca actggacacg gctggatggg 300
cctctgcccc gtggggtagc agtggtatgg gacactttgg gctttcccc actgaccact 360
gagcacagcg gcatctacgt ctgccatgtc agcaatgagt tctcctcaag ggattctcag 420
gtcactgtgg atgttcttgc agacccccag gaagactctg ggaagcaggt ggacctagtg 480
tcagcctcgg tgggtggtgg ggggtgtgat gccgcactct tgttctgcct tctggtggtg 540
gtggtggtgc tcatgtcccg ataccatcgg cgcaaggccc agcagatgac ccagaaatat 600
gaggaggagc tgaccctgac caggggagaac tccatccgga ggctgcattc ccatcacacg 660

```

gaccccagga gccagagtga agagcccagag ggccgcagtt actccacgct gaccacggtg 720
 agggagatag aaacacagac tgaactgctg tctccaggct ctgggcgggc cgaggaggag 780
 gaagatcagg atgaaggcat caaacaggcc atgaaccatt ttgttcagga gaatgggacc 840
 ctacggggcca agcccacggg caatggcatc tacatcaatg ggcggggaca cctggtc 897

<210> 43

<211> 299

<212> PRT

<213> Homo sapiens

<400> 43

Lys Gly Thr Thr Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala
 1 5 10 15

Val Thr Ser Glu Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln
 20 25 30

Pro Leu Thr Cys Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg
 35 40 45

Ile Thr His Ile Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg
 50 55 60

Gly Leu Glu Asp Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met
 65 70 75 80

Leu Lys Cys Leu Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr
 85 90 95

Arg Leu Asp Gly Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr
 100 105 110

Leu Gly Phe Pro Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys
 115 120 125

His Val Ser Asn Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp
 130 135 140

Val Leu Ala Asp Pro Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val
 145 150 155 160

Ser Ala Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys
 165 170 175

Leu Leu Val Val Val Val Val Leu Met Ser Arg Tyr His Arg Arg Lys
 180 185 190

Ala Gln Gln Met Thr Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg
195 200 205

Glu Asn Ser Ile Arg Arg Leu His Ser His His Thr Asp Pro Arg Ser
210 215 220

Gln Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu Thr Thr Val
225 230 235 240

Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly Ser Gly Arg
245 250 255

Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln Ala Met Asn
260 265 270

His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro Thr Gly Asn
275 280 285

Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
290 295

<210> 44
<400> 44
000

<210> 45
<400> 45
000

<210> 46
<400> 46
000

<210> 47
<400> 47
000

<210> 48
<400> 48
000

<210> 49

<400> 49
000

<210> 50
<400> 50
000

<210> 51
<211> 3114
<212> DNA
<213> Homo sapiens

<400> 51
cttaatgttg gaagtctctt agtcctatga gagtgtgtag cagtttgtcc ctgagctcta 60
gcttctttta atgaagctga gtctctgggc aacatcttta gggagagagg tacaaaaggt 120
tcctggacct tctcaacaca gggagcctgc ataatgatgc aagagcagca acctcaaagt 180
acagagaaaa gaggctggtt gtccctgaga ctctggtctg tggctgggat ttccattgca 240
ctcctcagtg cttgcttcat tgtgagctgt gtagtaactt accattttac atatggtgaa 300
actggcaaaa ggctgtctga actacactca tatcattcaa gtctcacctg cttcagtgaa 360
gggacaaaagg tgccagcctg gggatgttgc ccagcttctt ggaagtcatt tggttccagt 420
tgctacttca tttccagtga agagaagggt tggcttaaga gtgagcagaa ctgtgttgag 480
atgggagcac atttggttgt gttcaacaca gaagcagagc agaatttcat tgtccagcag 540
ctgaatgagt cattttctta ttttctgggg ctttcagacc cacaaggtaa taataattgg 600
caatggattg ataagacacc ttatgagaaa aatgtcagat tttggcacct aggtgagccc 660
aatcattctg cagagcaatg tgcttcaata gtcttctgga aacctacagg atggggctgg 720
aatgatgtta tctgtgaaac tagaaggaat tcaatatgtg agatgaataa gatttaccta 780
tgagtagaag cttaattgga aagaagagaa gaattactga cgtaattttt tccctgacgt 840
ctttaaaatt gaaccctatc atgaaatgat aatttcttcc tgaatttaca cataatcctt 900
atgttataga ggttcacaga aatggaaaga tacctgtttc cttttaatca atcttctcgt 960
ttcctctttt ccattaatga tagaatgcac ccttctctc tttgttccat tctttcactt 1020
gttattcatt tttttctttc ttcacacttc attacacaaa tatttattgt ttcagagact 1080
gtactatttt gtttgttaga agatttataa ggcagtatct tttgaaaatt atgactttcc 1140
ttcctcaata taccataaag aaatcttttt ggtcaagatg gtagttggaa ctacaatcat 1200
ctgaaggcct gacaagagtt gaaagacatg ttttctagat ggctcactca catggctggc 1260
aacttggtgt tggctattaa tgtaacctgg aaataaattt tattctgcag ttagggattt 1320
ggcattttat atatgttgat tcaatcaagt ttggcaagca ggggtgttcga tactgctata 1380
tcctgtattc ttggtttatt tgttttattt ctgagaaaata tgtgttaaga tctctcgtctg 1440
attgggaatt tgtctatttc tcattttaat tttgtcaaatt ctttctttgc ttgcaagcat 1500
ttcttggttac ccaaatactaa cctatttctg aaaatatgat ggtagcaaaa gtttgagata 1560
actagagcct gtaatccatc atttttaaag gcaatgataa tgacagttta tttttatggt 1620
atataaaaac ctcaacaaat tttccaaaaca attacaaaaa tggtcattaa tctgtatcca 1680
caaaggattt ctgcattaca tacttttaaaa caaattacct aattatttag tgcatattaa 1740
acttattggt gggcatgact atatgcaaca gttgcatgat atatgatata aattatgtta 1800
ttctttttcca ttgcaactgaa aataccataa tataaagaag aatcccatca tccaaattga 1860
gcctatatattg attgatactc agaagaatct ggcagtagga gcctataaag ggataagcaa 1920
ttgggaaagg attgggaagt tggtagtact gaacatcttc tcacctggac tcatgagcaa 1980

```

cttgaatagt tgtaactgtg atgcatatgt agattctaac acatttttcc cccttgaata 2040
gaaatttggc acaacaattt tttaaattaa ttttagcaaat atttgatat taaagcttct 2100
tatagaaaga gatacctgta tatttaagcc atgatgaggt atatacaatg ttataattat 2160
tacttgtaga tggcaaatta atttttttat cattgtggag tcactttctt taaatttagt 2220
aatgcctttg gctttaattt ttctcctgat attaaaatag atacagtaac ttctattatg 2280
ttagtgctgt aaaatttttt ttccatctt ctatttttga ccatttttat tccacatgtg 2340
ctcttaataa gtagcatata gttaaatttt aaaaaatcca atatggcaat caccttttag 2400
gttaaaaatt taatccattt acatttgtga caattcgaca tatatatggg tctaaatcta 2460
tcatcttact aggtgggttc catttcctct gctccaaaat atttttttta cagcttataa 2520
cacaactttt attagaaaag ttatacataa cacagcatca actattttca agaaccctaat 2580
aagcaacaaa aaccagacta acaaaatgtg taacaagaaa ctaatgacct ttctaaaatc 2640
aaacattcaa ttatctacaa tgtctattta caaacaggga aaactccatg gtttacaggc 2700
atgtcatatt gaaaataaag ctgcaatagc tttttatata attatcgctc tcaagaaaat 2760
gaatcattaa gacagtaatt aggagtccac aaatttaaaa catttcacgt aatttttaaat 2820
tattgtcttc aataatttta aattattgaa gtctgagttt caaaagtgat tttttccac 2880
aaaggtgcc aactttaagc tagagctttc agtgtaact ttgccctaaa agttaagaca 2940
tattctgaga atcataatag tcacatgatt tctgatgcta tctgctctgt taataacaaa 3000
gatttcacac atgaatacct atgtaacaaa tctccatgtt ctacacatat accccagaac 3060
ttaaagtata ataataataa aacatagcaa agccttttaa aaaaaaaaaa aaaa 3114

```

<210> 52

<211> 627

<212> DNA

<213> Homo sapiens

<400> 52

```

atgatgcaag agcagcaacc tcaaagtaca gagaaaagag gctgggtgtc cctgagactc 60
tggtctgtgg ctgggatttc cattgcactc ctcatgtctt gcttcattgt gagctgtgta 120
gtaacttacc attttacata tggtgaaact ggcaaaaggc tgtctgaact acactcatat 180
cattcaagtc tcacctgctt cagtgaaggg acaaagggtc cagcctgggg atgttgccca 240
gcttcttgga agtcatttgg ttccagttgc tacttcattt ccagtgaaga gaaggtttgg 300
tctaagagtg agcagaactg tgttgagatg ggagcacatt tggttgtgtt caacacagaa 360
gcagagcaga atttcattgt ccagcagctg aatgagtcatt tttcttattt tctggggctt 420
tcagaccac aaggtaataa taattggcaa tggattgata agacacctta tgagaaaaat 480
gtcagatttt ggcacctagg tgagcccaat cattctgcag agcaatgtgc ttcaatagtc 540
ttctggaac ctacaggatg gggctggaat gatgttatct gtgaaactag aaggaattca 600
atatgtgaga tgaataagat ttaccta 627

```

<210> 53

<211> 209

<212> PRT

<213> Homo sapiens

<400> 53

```

Met Met Gln Glu Gln Gln Pro Gln Ser Thr Glu Lys Arg Gly Trp Leu
1           5           10           15

```

Ser Leu Arg Leu Trp Ser Val Ala Gly Ile Ser Ile Ala Leu Leu Ser
20 25 30

Ala Cys Phe Ile Val Ser Cys Val Val Thr Tyr His Phe Thr Tyr Gly
35 40 45

Glu Thr Gly Lys Arg Leu Ser Glu Leu His Ser Tyr His Ser Ser Leu
50 55 60

Thr Cys Phe Ser Glu Gly Thr Lys Val Pro Ala Trp Gly Cys Cys Pro
65 70 75 80

Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu
85 90 95

Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
100 105 110

His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
115 120 125

Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
130 135 140

Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
145 150 155 160

Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
165 170 175

Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
180 185 190

Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
195 200 205

Leu

<210> 54

<211> 48

<212> PRT

<213> Homo sapiens

<400> 54

Met Met Gln Glu Gln Gln Pro Gln Ser Thr Glu Lys Arg Gly Trp Leu

1	5	10	15
Ser	Leu	Arg	Leu
Trp	Ser	Val	Ala
Gly	Ile	Ser	Ile
Ala	Leu	Leu	Ser
20	25	30	
Ala	Cys	Phe	Ile
Val	Ser	Cys	Val
Val	Thr	Tyr	His
Phe	Thr	Tyr	Gly
35	40	45	

<210> 55
 <211> 161
 <212> PRT
 <213> Homo sapiens

<400> 55
Glu Thr Gly Lys Arg Leu Ser Glu Leu His Ser Tyr His Ser Ser Leu
1 5 10 15
Thr Cys Phe Ser Glu Gly Thr Lys Val Pro Ala Trp Gly Cys Cys Pro
20 25 30
Ala Ser Trp Lys Ser Phe Gly Ser Ser Cys Tyr Phe Ile Ser Ser Glu
35 40 45
Glu Lys Val Trp Ser Lys Ser Glu Gln Asn Cys Val Glu Met Gly Ala
50 55 60
His Leu Val Val Phe Asn Thr Glu Ala Glu Gln Asn Phe Ile Val Gln
65 70 75 80
Gln Leu Asn Glu Ser Phe Ser Tyr Phe Leu Gly Leu Ser Asp Pro Gln
85 90 95
Gly Asn Asn Asn Trp Gln Trp Ile Asp Lys Thr Pro Tyr Glu Lys Asn
100 105 110
Val Arg Phe Trp His Leu Gly Glu Pro Asn His Ser Ala Glu Gln Cys
115 120 125
Ala Ser Ile Val Phe Trp Lys Pro Thr Gly Trp Gly Trp Asn Asp Val
130 135 140
Ile Cys Glu Thr Arg Arg Asn Ser Ile Cys Glu Met Asn Lys Ile Tyr
145 150 155 160

Leu

<210> 56
<400> 56
000

<210> 57
<400> 57
000

<210> 58
<400> 58
000

<210> 59
<400> 59
000

<210> 60
<211> 209
<212> PRT
<213> Mus sp.

<400> 60
Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
1 5 10 15
Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
20 25 30
Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
35 40 45
Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
50 55 60
Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
65 70 75 80
Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
85 90 95

Glu	Asn	Phe	Trp	Ser	Thr	Ser	Glu	Gln	Asn	Cys	Val	Gln	Met	Gly	Ala
			100					105					110		
His	Leu	Val	Val	Ile	Asn	Thr	Glu	Ala	Glu	Gln	Asn	Phe	Ile	Thr	Gln
		115					120					125			
Gln	Leu	Asn	Glu	Ser	Leu	Ser	Tyr	Phe	Leu	Gly	Leu	Ser	Asp	Pro	Gln
		130					135					140			
Gly	Asn	Gly	Lys	Trp	Gln	Trp	Ile	Asp	Asp	Thr	Pro	Phe	Ser	Gln	Asn
145					150					155					160
Val	Arg	Phe	Trp	His	Pro	His	Glu	Pro	Asn	Leu	Pro	Glu	Glu	Arg	Cys
				165					170					175	
Val	Ser	Ile	Val	Tyr	Trp	Asn	Pro	Ser	Lys	Trp	Gly	Trp	Asn	Asp	Val
			180					185					190		
Phe	Cys	Asp	Ser	Lys	His	Asn	Ser	Ile	Cys	Glu	Met	Lys	Lys	Ile	Tyr
		195					200					205			

Leu

<210> 61
 <211> 821
 <212> DNA
 <213> Mus sp.

<220>
 <221> unsure
 <222> ()..)

<400> 61
 gaactccccg gtgtcgaccc cgcgtcccgga ttggcccgct ctgtggcatt taactcaagt 60
 gtgtgtggaa gttgattctg aactctggcc tctttgacag aagccaggct cctgagtcgt 120
 attttgaga cagatgcaag aaaccctga ccttctgaac atacacctca acaatggtgc 180
 aggaaagaca atcccaaggg aaggaggtct gctggaccct gagactctgg tcagctgctg 240
 tgatttccat gttactcttg agtacctgtt tcattgagag ctgtgtggtg acttaccat 300
 ttattatgga ccagcccagt agaagactat atgaacttca cacataccat tccagtctca 360
 cctgcttcag tgaagggact atggtgtcag aaaaaatgtg gggatgctgc ccaaactact 420
 ggaagtcatt tggctccagc tgctacctca tttctaccaa ggagaacttc tggagcacca 480
 gtgagcagaa ctgtgttcag atgggggctc atctggtggt gatcaatact gaagcggagc 540
 agaatttcat caccagcag ctgaatgagt cactttctta cttcctgggt ctttcggatc 600
 ccaaggtaat ggcaaatggc aatggatcga tgatactcct ttcagtcaaa atgtcagggt 660
 ctggcacccc catgaacca atcttccaga agagcgggtg gtttcaatag tttactggaa 720
 tccttcgaaa tggggctggg aatgatgttt tctgtgatag taaacacaat tcaatatgtg 780

aatgaanaa gattacctat gaatgcctgt tattcttaat a

821

<210> 62

<211> 534

<212> DNA

<213> Mus sp.

<400> 62

atggtgcagg aaagacaatc ccaaggaag ggagtctgct ggacctgag actctgggtca 60
gctgctgtga tttccatgtt actcttgagt acctgtttca ttgcgagctg tgtgggtgact 120
taccaattta ttatggacca gccagtaga agactatatg aacttcacac ataccattcc 180
agtctcacct gcttcagtga agggactatg gtgtcagaaa aaatgtgggg atgctgcccc 240
aatcactgga agtcatttgg ctccagctgc tacctcattt ctaccaagga gaacttctgg 300
agcaccagtg agcagaactg tgttcagatg ggggtctatc tgggtggtgat caatactgaa 360
gcgagcaga atttcatcac ccagcagctg aatgagtcac tttcttactt cctgggtctt 420
tcggatccca aggtaatggc aaatggcaat ggatcgatga tactcctttc agtcaaatg 480
tcaggttctg gcacccccat gaaccaatc ttccagaaga gcggtgtgtt tcaa 534

<210> 63

<211> 178

<212> PRT

<213> Mus sp.

<400> 63

Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
1 5 10 15

Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
20 25 30

Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
35 40 45

Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
50 55 60

Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
65 70 75 80

Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
85 90 95

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
100 105 110

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln

115 120 125
 Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
 130 135 140
 Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
 145 150 155 160
 Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
 165 170 175
 Phe Gln

<210> 64
 <211> 48
 <212> PRT
 <213> Mus sp.

<400> 64
 Met Val Gln Glu Arg Gln Ser Gln Gly Lys Gly Val Cys Trp Thr Leu
 1 5 10 15
 Arg Leu Trp Ser Ala Ala Val Ile Ser Met Leu Leu Leu Ser Thr Cys
 20 25 30
 Phe Ile Ala Ser Cys Val Val Thr Tyr Gln Phe Ile Met Asp Gln Pro
 35 40 45

<210> 65
 <211> 130
 <212> PRT
 <213> Mus sp.

<400> 65
 Ser Arg Arg Leu Tyr Glu Leu His Thr Tyr His Ser Ser Leu Thr Cys
 1 5 10 15
 Phe Ser Glu Gly Thr Met Val Ser Glu Lys Met Trp Gly Cys Cys Pro
 20 25 30
 Asn His Trp Lys Ser Phe Gly Ser Ser Cys Tyr Leu Ile Ser Thr Lys
 35 40 45

Glu Asn Phe Trp Ser Thr Ser Glu Gln Asn Cys Val Gln Met Gly Ala
50 55 60

His Leu Val Val Ile Asn Thr Glu Ala Glu Gln Asn Phe Ile Thr Gln
65 70 75 80

Gln Leu Asn Glu Ser Leu Ser Tyr Phe Leu Gly Leu Ser Asp Pro Lys
85 90 95

Val Met Ala Asn Gly Asn Gly Ser Met Ile Leu Leu Ser Val Lys Met
100 105 110

Ser Gly Ser Gly Thr Pro Met Asn Pro Ile Phe Gln Lys Ser Gly Val
115 120 125

Phe Gln
130

<210> 66
<400> 66
000

<210> 67
<400> 67
000

<210> 68
<400> 68
000

<210> 69
<400> 69
000

<210> 70
<400> 70
000

<210> 71
<211> 1252
<212> DNA

<213> Mus sp.

<400> 71

```
cgaccccgcg tccgctgact tctggggttg cagcattggc ccgctctgtg gcattttaact 60
caagtgtgtg tggaagttga ttctgaactc tggcctcttt gacagaagcc aggtccctga 120
gtcgtatttt ggagacagat gcaagaaacc cctgaccttc tgaacataca cctcaacaat 180
ggtgcaggaa agacaatccc aagggaaggg agtctgctgg accctgagac tctggtcagc 240
tgctgtgatt tccatgttac tcttgagtac ctgtttcatt gcgagctgtg tggtgactta 300
ccaatttatt atggaccagc ccagtagaag actatatgaa cttcacacat accattccag 360
tctcacctgc ttcagtgaag ggactatggt gtcagaaaaa atgtggggat gctgcccaaa 420
tacttggaag tcatttggtt ccagctgcta cctcatttct accaaggaga acttctggag 480
caccagttag cagaactgtg ttcagatggg ggctcatctg gtggtgatca atactgaagc 540
ggagcagaat ttcatacccc agcagctgaa tgagtcactt tcttacttcc tgggtctttc 600
ggatccacaa ggtaatggca aatggcaatg gatcgatgat actcctttca gtcaaaatgt 660
caggttcttg cacccccatt aacccaatct tccagaagag cgggtgtgtt caatagttaa 720
ctggaatcct tcgaaatggg gctggaatga tgttttctgt gatagtaaac acaattcaat 780
atgtgaaatg aagaagattt acctatgagt gcctgttatt cattaatatc tttaaagttc 840
agacctacca agaagccata acttcttggc ctgtacatct gacagaggcc gttcttttcc 900
tagccactat tctttactca aacagaatga gccctttctc cttctgatgg ttagagtttt 960
gtcaacttga cacaaactag agtcacctgg ggagtaggat cttcagctaa ggaattgcct 1020
ctgtcagctt gaccagtcag catgtctggg ggcattttct tgattaatga ttgttgtaag 1080
aggggtccagg tggttaagcaa aggtgttaaa cccatgaaga gcaagccagg gagcatcatc 1140
catccatctc tgccctcagg tttctgcccc agggctcttc cctggtttct ttctatgaac 1200
tgctgttact tgaaggtata agatgaataa acaatttcat ccaaaaaaaaa aa 1252
```

<210> 72

<211> 627

<212> DNA

<213> Mus sp.

<400> 72

```
atggtgcagg aaagacaatc ccaaggggaag ggagtctgct ggaccctgag actctggtca 60
gctgctgtga tttccatggt actcttgagt acctgtttca ttgcgagctg tgtggtgact 120
taccaattta ttatggacca gccagtaga agactatatg aacttcacac ataccattcc 180
agtctcacct gcttcagtga agggactatg gtgtcagaaa aaatgtgggg atgctgccca 240
aatcactgga agtcatttgg ctccagctgc tacctcattt ctaccaagga gaacttctgg 300
agcaccagtg agcagaactg tgttcagatg ggggtcatc tggtggtgat caatactgaa 360
gaggagcaga atttcatcac ccagcagctg aatgagtcac tttcttactt cctgggtctt 420
tcggatccac aaggtaatgg caaatggcaa tggatcgatg atactccttt cagtcaaaat 480
gtcaggttct ggcaccccca tgaacccaat cttccagaag agcgggtgtg ttcaatagtt 540
tactggaatc cttcgaaatg gggctggaat gatgttttct gtgatagtaa acacaattca 600
atatgtgaaa tgaagaagat ttaccta 627
```

<210> 73

<211> 590

<212> PRT

<213> Mus sp.

<400> 73

Met	Glu	Thr	Val	Ala	Leu	Gly	Leu	Asn	Gly	Leu	Ala	Arg	Gly	Gly	Leu	
1				5				10					15			
Asn	Ser	Glu	Arg	Gly	Leu	Asn	Gly	Leu	Tyr	Leu	Tyr	Ser	Gly	Leu	Tyr	
			20				25						30			
Val	Ala	Leu	Cys	Tyr	Ser	Thr	Arg	Pro	Thr	His	Arg	Leu	Glu	Ala	Arg	
		35					40					45				
Gly	Leu	Glu	Thr	Arg	Pro	Ser	Glu	Arg	Ala	Leu	Ala	Ala	Leu	Ala	Val	
	50					55					60					
Ala	Leu	Ile	Leu	Glu	Ser	Glu	Arg	Met	Glu	Thr	Leu	Glu	Leu	Glu	Leu	
65					70				75						80	
Glu	Ser	Glu	Arg	Thr	His	Arg	Cys	Tyr	Ser	Pro	His	Glu	Ile	Leu	Glu	
				85				90						95		
Ala	Leu	Ala	Ser	Glu	Arg	Cys	Tyr	Ser	Val	Ala	Leu	Val	Ala	Leu	Thr	
		100					105						110			
His	Arg	Thr	Tyr	Arg	Gly	Leu	Asn	Pro	His	Glu	Ile	Leu	Glu	Met	Glu	
		115					120					125				
Thr	Ala	Ser	Pro	Gly	Leu	Asn	Pro	Arg	Ser	Glu	Arg	Ala	Arg	Gly	Ala	
	130					135					140					
Arg	Gly	Leu	Glu	Thr	Tyr	Arg	Gly	Leu	Leu	Glu	His	Ile	Ser	Thr	His	
145					150					155					160	
Arg	Thr	Tyr	Arg	His	Ile	Ser	Ser	Glu	Arg	Ser	Glu	Arg	Leu	Glu	Thr	
				165				170						175		
His	Arg	Cys	Tyr	Ser	Pro	His	Glu	Ser	Glu	Arg	Gly	Leu	Gly	Leu	Tyr	
		180					185						190			
Thr	His	Arg	Met	Glu	Thr	Val	Ala	Leu	Ser	Glu	Arg	Gly	Leu	Leu	Tyr	
		195					200					205				
Ser	Met	Glu	Thr	Thr	Arg	Pro	Gly	Leu	Tyr	Cys	Tyr	Ser	Cys	Tyr	Ser	
	210					215				220						
Pro	Arg	Ala	Ser	Asn	His	Ile	Ser	Thr	Arg	Pro	Leu	Tyr	Ser	Ser	Glu	
225					230				235						240	

Arg	Pro	His	Glu	Gly	Leu	Tyr	Ser	Glu	Arg	Ser	Glu	Arg	Cys	Tyr	Ser	
				245					250					255		
Thr	Tyr	Arg	Leu	Glu	Ile	Leu	Glu	Ser	Glu	Arg	Thr	His	Arg	Leu	Tyr	
			260					265					270			
Ser	Gly	Leu	Ala	Ser	Asn	Pro	His	Glu	Thr	Arg	Pro	Ser	Glu	Arg	Thr	
		275					280					285				
His	Arg	Ser	Glu	Arg	Gly	Leu	Gly	Leu	Asn	Ala	Ser	Asn	Cys	Tyr	Ser	
	290					295					300					
Val	Ala	Leu	Gly	Leu	Asn	Met	Glu	Thr	Gly	Leu	Tyr	Ala	Leu	Ala	His	
305					310					315					320	
Ile	Ser	Leu	Glu	Val	Ala	Leu	Val	Ala	Leu	Ile	Leu	Glu	Ala	Ser	Asn	
				325					330					335		
Thr	His	Arg	Gly	Leu	Ala	Leu	Ala	Gly	Leu	Gly	Leu	Asn	Ala	Ser	Asn	
			340					345					350			
Pro	His	Glu	Ile	Leu	Glu	Thr	His	Arg	Gly	Leu	Asn	Gly	Leu	Asn	Leu	
		355					360					365				
Glu	Ala	Ser	Asn	Gly	Leu	Ser	Glu	Arg	Leu	Glu	Ser	Glu	Arg	Thr	Tyr	
	370					375					380					
Arg	Pro	His	Glu	Leu	Glu	Gly	Leu	Tyr	Leu	Glu	Ser	Glu	Arg	Ala	Ser	
385				390						395					400	
Pro	Pro	Arg	Gly	Leu	Asn	Gly	Leu	Tyr	Ala	Ser	Asn	Gly	Leu	Tyr	Leu	
				405					410					415		
Tyr	Ser	Thr	Arg	Pro	Gly	Leu	Asn	Thr	Arg	Pro	Ile	Leu	Glu	Ala	Ser	
			420					425					430			
Pro	Ala	Ser	Pro	Thr	His	Arg	Pro	Arg	Pro	His	Glu	Ser	Glu	Arg	Gly	
		435					440					445				
Leu	Asn	Ala	Ser	Asn	Val	Ala	Leu	Ala	Arg	Gly	Pro	His	Glu	Thr	Arg	
	450					455					460					
Pro	His	Ile	Ser	Pro	Arg	His	Ile	Ser	Gly	Leu	Pro	Arg	Ala	Ser	Asn	
465					470					475					480	
Leu	Glu	Pro	Arg	Gly	Leu	Gly	Leu	Ala	Arg	Gly	Cys	Tyr	Ser	Val	Ala	
				485					490						495	

Leu Ser Glu Arg Ile Leu Glu Val Ala Leu Thr Tyr Arg Thr Arg Pro
500 505 510

Ala Ser Asn Pro Arg Ser Glu Arg Leu Tyr Ser Thr Arg Pro Gly Leu
515 520 525

Tyr Thr Arg Pro Ala Ser Asn Ala Ser Pro Val Ala Leu Pro His Glu
530 535 540

Cys Tyr Ser Ala Ser Pro Ser Glu Arg Leu Tyr Ser His Ile Ser Ala
545 550 555 560

Ser Asn Ser Glu Arg Ile Leu Glu Cys Tyr Ser Gly Leu Met Glu Thr
565 570 575

Leu Tyr Ser Leu Tyr Ser Ile Leu Glu Thr Tyr Arg Leu Glu
580 585 590

<210> 74
<400> 74
000

<210> 75
<400> 75
000

<210> 76
<400> 76
000

<210> 77
<400> 77
000

<210> 78
<400> 78
000

<210> 79
<400> 79
000

<210> 80
 <400> 80
 000

<210> 81
 <211> 1202
 <212> DNA
 <213> Homo sapiens

<400> 81
 gtcgaccac gcgtccgga accattccac aatcacccctc ctgaggaaact cttagcactg 60
 cataaagtgt tctgagtttg taatcagata ttgtcacact ggttccttca aacagacatg 120
 acaaggagct ggctttgggc taggctgctc cttgcctatg attggggaag gttaaaccctc 180
 tacagggcctt atgtatgtgg aaactgttgg aacactgatt aaatgggatg gacttcactt 240
 aacactcttg gatttccaat attatgtttg agtaaaagaa ctgctatcca caaacaccat 300
 taatccttta gggaggcaga aaaggccaga atgcaaagcc atcttttcat tacactaggg 360
 tctgtctttt tacttctctg ggcctttatc tggggagggc atgtttcccc cacttggaac 420
 agtgagcctg gccaggacag taacctgtgg gcttgtgatg acattatttc taatagggaa 480
 tgggaaagga tgtagcttc tcagggttta aagtgtcctg gaggagaaga gaaaggacga 540
 catgagaagg agacaatgaa gaagatgggt gagggggaga tagtgtaaga ccctgagaat 600
 ggcatagggt aaaactggga cagagatact gtgggagaac gatagctgca gagggacaga 660
 gggaggaagg aaggagaaga gagggagata aaaacagttt ggagaaactc tcacaatata 720
 ttcataagaa gacaaagaac ccaataaaaa tgggcaacag ataccacaga agatgatata 780
 ttgagtggcc aataaataca taaaaatatg ctcaacatct ataattacca gggaaatgca 840
 aattaaaagc actgtgagat accactacac actgatgaga atggctaaaa tcaaaaaaga 900
 ccaaccagca ctttgggagg ccgaggtggg cggatcatga ggtcaggagt ttgagactag 960
 cctgaccaac atggtgaaac cctgtctcta ctaaacatac aaaaattagc tgggggtggg 1020
 ggcattgcgc tgtaattcca gctactcagg aggctgaggc aggagaatcg cttgaacca 1080
 ggaggcagag attacagtga gccgagatca tgcccttgca ctctagcctg ggtgacagag 1140
 cgagactctg tcttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagggcggcc 1200
 gc 1202

<210> 82
 <211> 255
 <212> DNA
 <213> Homo sapiens

<400> 82
 atgcaaagcc atcttttcat tacactaggg tctgtctttt tacttctctg ggcctttatc 60
 tggggagggc atgtttcccc cacttggaac agtgagcctg gccaggacag taacctgtgg 120
 gcttgtgatg acattatttc taatagggaa tgggaaagga tgtagcttc tcagggttta 180
 aagtgtcctg gaggagaaga gaaaggacga catgagaagg agacaatgaa gaagatgggt 240
 gagggggaga tagtg 255

<210> 83
<211> 85
<212> PRT
<213> Homo sapiens

<400> 83
Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
1 5 10 15
Trp Ala Phe Ile Trp Gly Gly His Val Ser Pro Thr Trp Asn Ser Glu
20 25 30
Pro Gly Gln Asp Ser Asn Leu Trp Ala Cys Asp Asp Ile Ile Ser Asn
35 40 45
Arg Glu Trp Glu Arg Met Leu Ala Ser Gln Val Leu Lys Cys Pro Gly
50 55 60
Gly Glu Glu Lys Gly Arg His Glu Lys Glu Thr Met Lys Lys Met Gly
65 70 75 80
Glu Gly Glu Ile Val
85

<210> 84
<211> 23
<212> PRT
<213> Homo sapiens

<400> 84
Met Gln Ser His Leu Phe Ile Thr Leu Gly Ser Val Phe Leu Leu Leu
1 5 10 15
Trp Ala Phe Ile Trp Gly Gly
20

<210> 85
<211> 62
<212> PRT
<213> Homo sapiens

<400> 85
His Val Ser Pro Thr Trp Asn Ser Glu Pro Gly Gln Asp Ser Asn Leu
1 5 10 15
Trp Ala Cys Asp Asp Ile Ile Ser Asn Arg Glu Trp Glu Arg Met Leu

56